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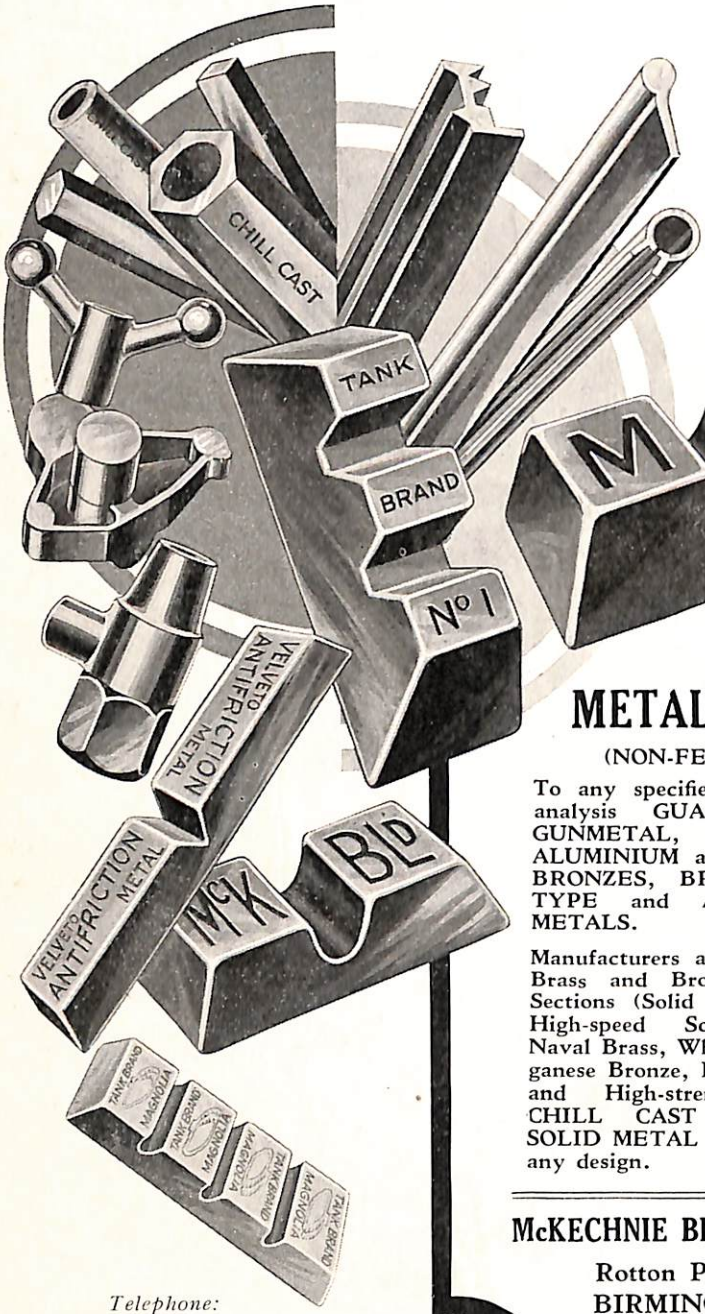

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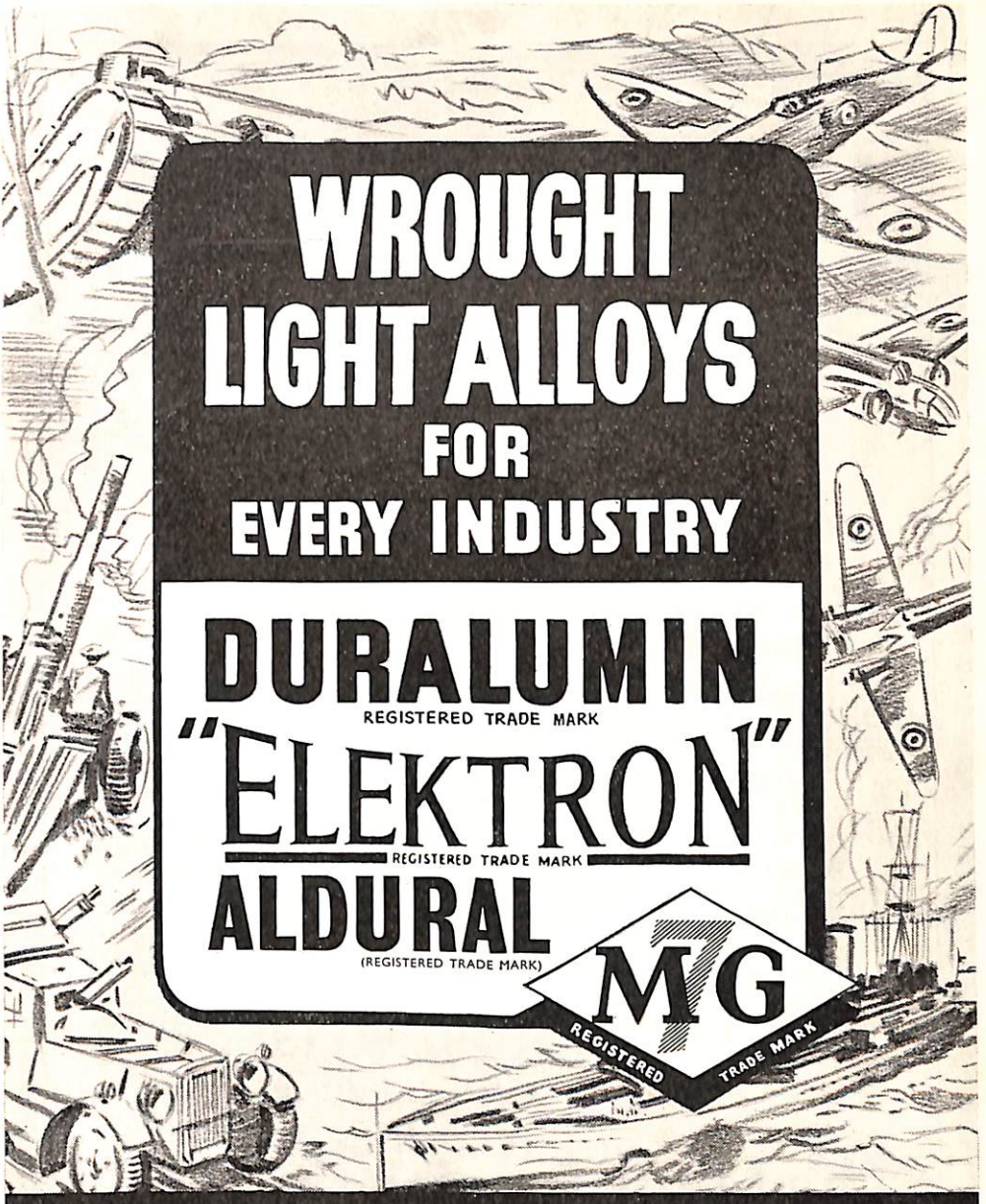

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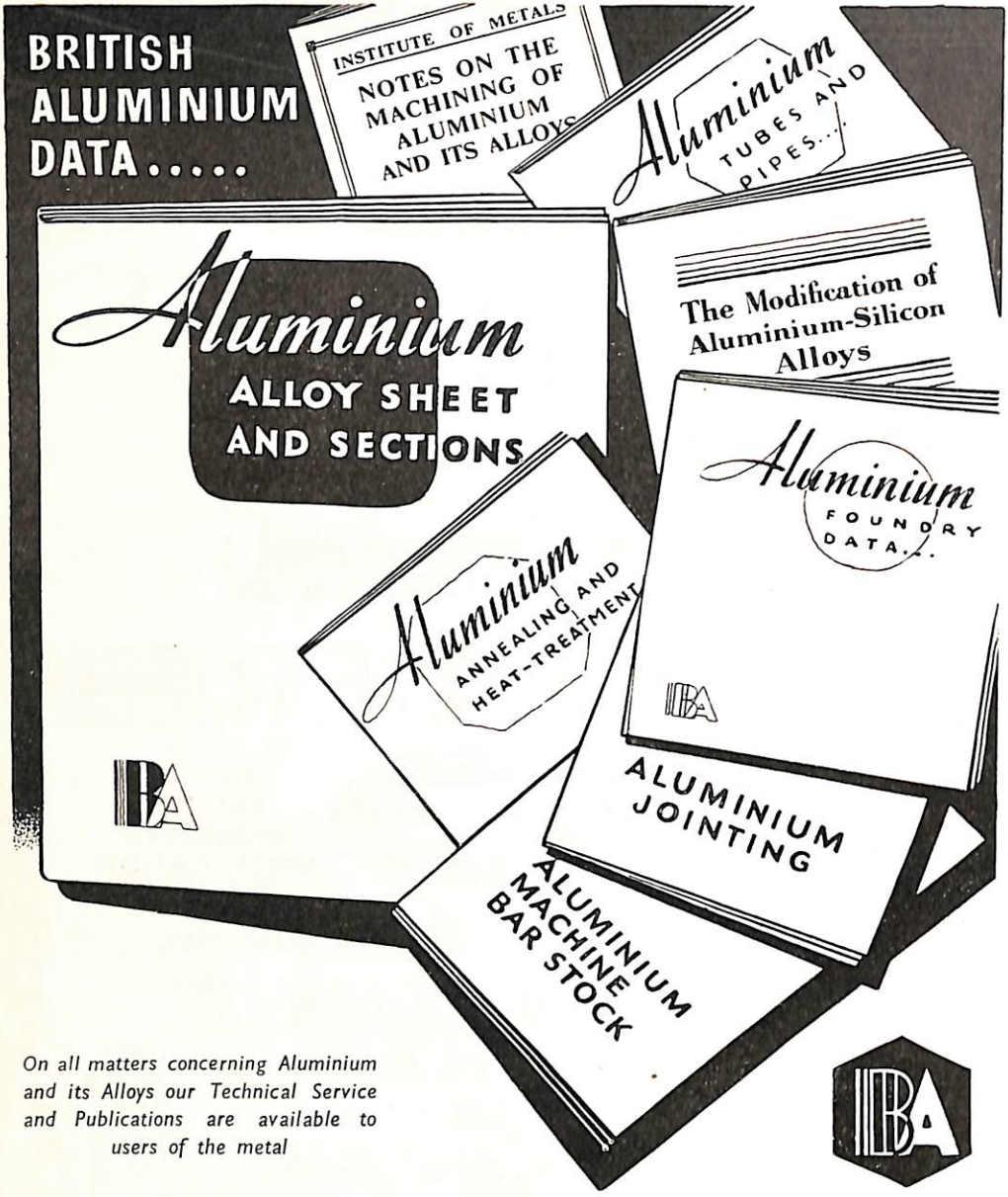

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P 38.M.A. 41

Preface

THE first edition of METALS AND ALLOYS was published in 1920, when the compositions of some 500 alloys were given. The second edition in 1931 covered some 3,500 compositions. This edition was reprinted in 1933, with the addition of a Supplementary List, bringing the total to some 4,600 compositions. The necessity of referring to two separate Lists made this edition somewhat unsatisfactory. In the present edition, covering some 3,700 compositions, a complete revision has, therefore, been made, and the details of a great number of additional alloys have been added, so that it is hoped that the List is a reasonably complete one.

It would be presumptuous to profess that there were no important omissions, for we have been asked in some cases not to divulge the compositions of certain alloys. In others, however, we have to thank many kind correspondents who have supplied us with information concerning the alloys in which they are interested. There are, doubtless, other alloys which might have been listed, and the publishers would be grateful for any information as to these, so that they may be included in further editions.

It will be useful to give some information as to the scheme followed in compiling the present List. The alloys covered are regarded as non-ferrous and are limited to those containing not more than 50 per cent. of iron, for it was considered undesirable, for many reasons, to include ferrous alloys in the same List. It is primarily a list of alloys having definite names, either proprietary alloys of which the compositions have been recorded, or those other alloys—Muntz Metal, Naval Brass, etc.—which, although not proprietary or no longer so, have usually a fairly definite composition. For many such alloys, of course, somewhat varying compositions have been recorded, and these variations have naturally been cited. At the same time, however, many deletions have been made of compositions which did not differ markedly from other compositions cited, and where there was, therefore, too much repetition of somewhat similar compositions.

In addition to these alloys with definite " names," a good many alloys, to which specific names are not attached, have been inserted under their appropriate headings, as Brasses, Bronzes, Copper-Nickel Alloys, and so forth, generally under the description of the duty served by the particular alloy. The List thus evidently becomes much more complete and useful. It naturally follows that an alloy with a definite name will be found in its alphabetical order, while a somewhat similar alloy may be found elsewhere under some other description, this being, of course, unavoidable in an alphabetical arrangement. It should be said that considerable efforts have been made to avoid the duplication of entries which have occurred to some extent in previous editions, and it will thus be clear that proprietary bronzes, as Carobronze, Dawson's Bronze, etc., are listed only under these respective names, and are not to be found also under the " Bronze " heading.

The fact that " un-named " alloys have been included only under the description of the particular duty served has led to the deletion of a large number of alloys included in previous editions as compositions without any details of the purpose. The value of the present List must thus be regarded as considerably greater than the relative number of compositions now included would appear at first to suggest.

The limits of composition of various alloys as specified by different authorities have been included to a limited extent. Where

Continued overleaf.

these specifications give limits of composition of a named proprietary alloy, it was obviously desirable to include them. Similarly, where they cover an alloy not proprietary, but one having a definite name, and, to a very great extent, a definite composition (for example, Naval Brass), these specified figures have often been cited, sometimes those of more than one specification, where there are differences in the figures. In a number of other cases, specified figures are also given under the heading of the duty. But the attempt to include all specified compositions would have entailed a very considerable duplication of very similar compositions, a consequence which had to be avoided. It is hoped that the scheme followed, that of including, under the appropriate heading, a representative selection of alloys for various duties, will be generally approved.

It will be useful to anticipate objections that may be raised as to the status of some of the alloys that have been listed. If it be urged that a number of them are either obsolete or obsolescent, while others are, perhaps, of little industrial importance, it should be said that the aim has been to make the List as complete as possible; while, further, it is often impossible, without further data, to assess the industrial importance of a recorded alloy. Again, in the same connection, E. V. Pannell, in the introduction to a short list of aluminium casting alloys, says recently: " While most of these alloys have some commercial status at the present time, a few have been included which have gone out of use, although their names recur in specifications and literature, and it is not unusual for an obsolete mixture to be ' re-discovered.' "* These various considerations seem to afford a good deal of justification for the inclusion of many of the older alloys which have been listed—alloys which a particular individual, having special knowledge of the class concerned, may know to have been generally superseded by " improved " alloys.

It will be obvious that both the descriptions and the compositions of alloys having definite " names " must be cited exactly as they are recorded, despite the fact that the name may seem inappropriate, or even incorrect, and that widely varying compositions may sometimes be quoted for the alloy in question. It would naturally be quite unjustifiable to act as a censor, either of names or compositions. It should be said that it is often quite impossible to " verify " the description and composition of an alloy before publication. These data have been collected from many different sources, and there is often no indication as to the makers. That particular alloys are quoted with widely varying compositions, while an alloy of a particular composition may appear under a bewildering variety of different names, as supplied by different makers, renders this matter of verification an even more difficult one. There is no certainty even in referring to the makers, who, for reasons of policy or otherwise, may deny the correctness of a composition, the accuracy of which is not really in doubt. Thus, even if one knows that a particular alloy is the proprietary product of some firm, it is not one's business to verify the composition cited, and one should merely report it. It necessarily follows that when one finds the recorded composition of a particular alloy, it may be incorrect, but one may not know it to be so. Again, it may not necessarily be incorrect, but it may not agree with what the next man thinks it ought to be. Thus one can only record the data and leave the matter to the judgment of the reader.

Continued on page xiv.

* "Iron Age," June 13, 1940, p. 25.

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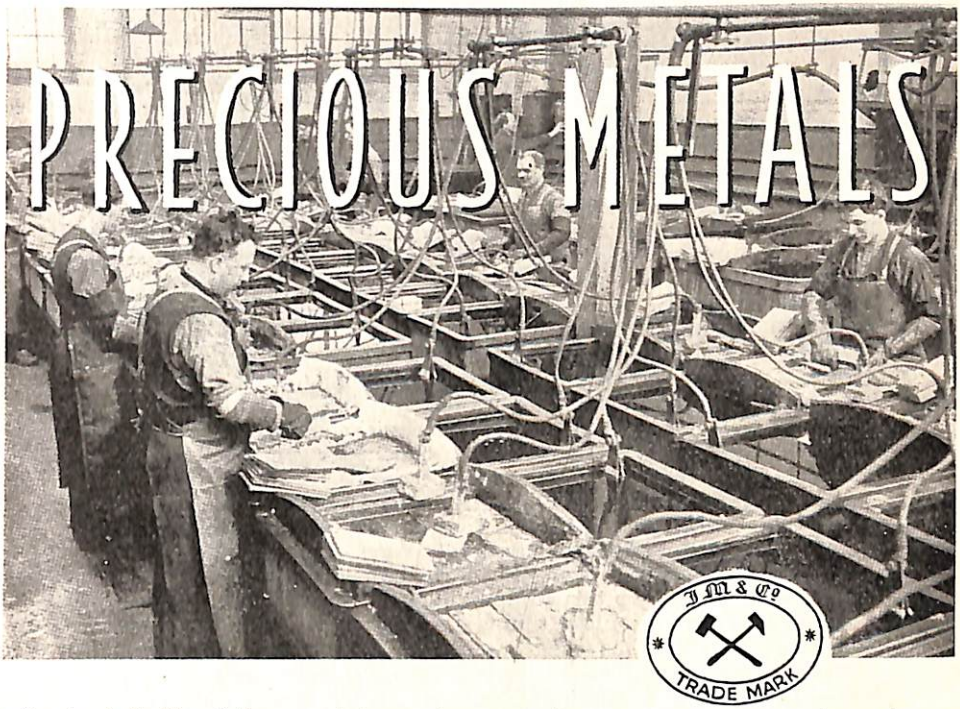

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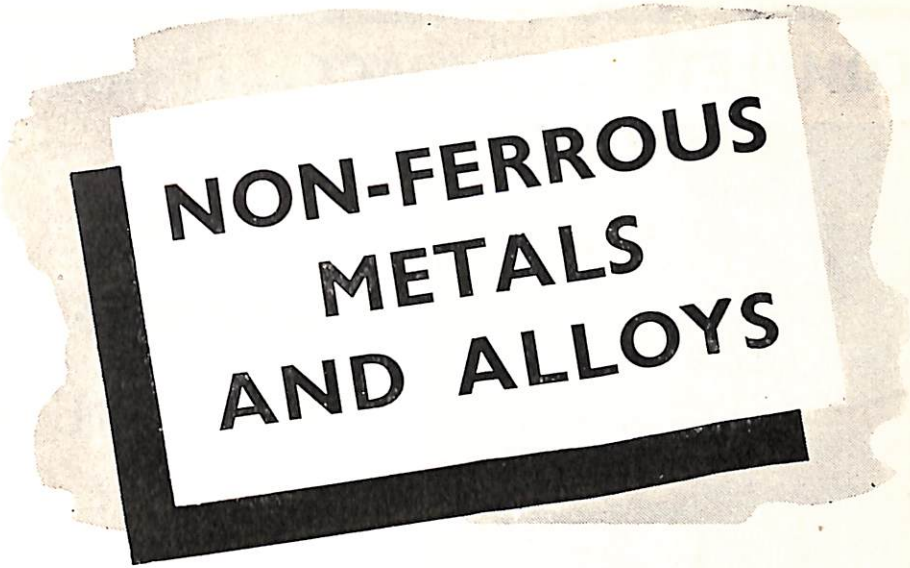
In practice, the " usual " range of composition has frequently been given, although some of the alloys cited may show figures outside this range. As said previously, it is by no means uncommon to find alloys of totally different compositions with the same name. Where the error seemed an obvious one, so that undue confusion might have resulted from their inclusion, such alloys have been left out. Among such were various aluminium alloys described as "Aluminium Bronze, Light " and a series of brasses under the heading of " Pewter." Thus the difficulties of compiling such a list without leaving oneself open to considerable criticism are almost insuperable. It is hoped, therefore, that some toleration will be exercised in this respect.

The same remarks apply to nomenclature. All named alloys are in alphabetical order. It is sometimes difficult to know when a name leaves off and a description begins, and there may be apparent discrepancies here and there for this reason. Exception may also be taken to some of the headings under which unnamed alloys have been grouped. It is appreciated, for example, that " Manganese Bronze " and " Silicon Bronze " are not true Bronzes. They are generally called bronzes, however, and there should be no particular difficulty on this score after one has used the List a few times. Where there is no main heading, as with the nickel-chromium alloys, for example, the name of the major constituent has been put first, and those of other constituents generally in order of descending magnitude. Thus nickel-chromium alloys contain more nickel than chromium, and vice versa. Nickel-chrome-iron alloys should normally contain these constituents in diminishing quantity. When, however, the iron may be in content greater than the chromium, it seems unnecessarily complicated to split up this group of alloys—alloys having very similar uses—into two groups, nickel-chromium-iron and nickel-iron-chromium. The same principle has been applied to other groups of alloys. In alloys having several constituents, various compromises have been utilised, according to the individual case, as will be seen on reference to the List.

Dealing with further criticisms of the previous editions, it was considered impracticable to search for new alloys in Patent Office Lists, as many of these alloys never get beyond the application for provisional protection, and they are not industrial alloys in any sense of the term. A suggestion that alloys should be grouped under the respective duties for which they are suitable would clearly involve endless repetitions of the same alloys, would make the book many times larger than it is at present, and would greatly increase the difficulty of locating any particular alloy. Under each duty, one would also be bound to leave out a very great number of alloys. In the present edition, an attempt has, however, been made where possible to indicate the purpose served by a particular alloy. A minor alteration in arrangement is that the metals chromium and magnesium now appear as main headings, while antimony, bismuth and tungsten have been put into the " Miscellaneous " column.

In conclusion, it is felt that the present edition of METALS AND ALLOYS represents a considerable advance over any of its predecessors, with corresponding advantage in industrial utility, an opinion which it is hoped will be endorsed by the great majority of its readers.

April, 1941. THE EDITOR.



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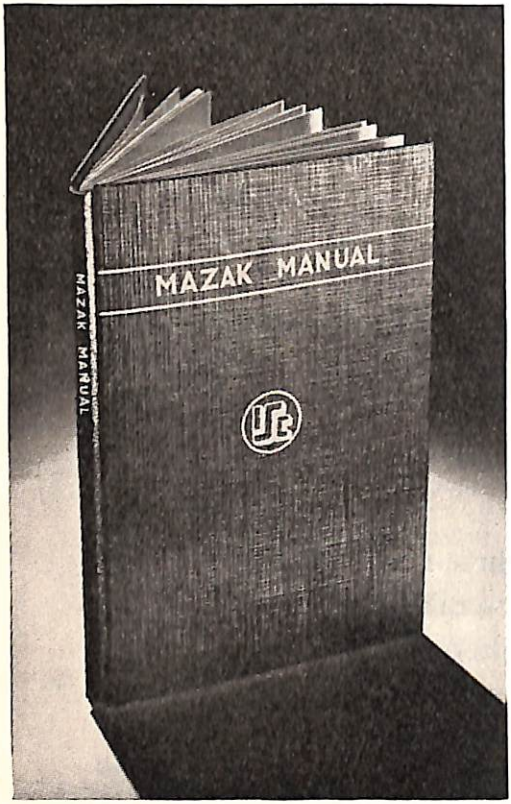

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TABLE OF CONTENTS

	PAGES
Percentage Composition of Non-ferrous Alloys - -	2-154
Particulars of all the known Metals - - - -	155, 156

INDEX TO ADVERTISERS

Batchelor, Robinson & Co., Ltd.	ix
Booth & Co. (1915), Ltd., James	vii
British Aluminium Co., Ltd., The	x
Capper Pass & Son, Ltd.	xvii
Delta Metal Co., Ltd., The	Outside Back Cover
Dunstan & Wragg	vi
Everitt & Co., Ltd.	v
Eyre Smelting Co., Ltd., The	xix
Imperial Chemical Industries, The	xv
Johnson Matthey & Co., Ltd.	xiii
McKechnie Brothers, Ltd.	ii
National Alloys, Ltd.	xvi
Walton & Co. (Castleside), Ltd., John	xix

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Description of Alloy.	Alu-minium.	Chrom-ium.	Copper.	Iron.	Lead.	Mag-nesium.	Nickel.	Tin.	Zinc.	Miscellaneous.
A5 (French Coinage Alloy) ...	90	—	5	—	—	—	—	—	—	Ag 5
A.M.F. Alloy (Low Temp. Service)	—	—	—	Bal.	—	—	55–60	—	—	C 0·2–0·4 : Mn 0·3
Heat-Treated A.P. 33 (Wrt.)	95·1	—	4·6	—	—	—	—	—	—	Ti 0·3
,, ,, ,, ,, ...	Bal.	—	4·5–5·0	—	—	—	—	—	—	Ti 0·25–0·4
,, ,, ,, ,, ...	Bal.	—	4·5	—	—	0·5	—	—	—	Ti 0·4
A.T.V. Alloy (Corr. Resisting)	—	11·4	—	Bal.	—	—	33·9	—	—	Mn 1·1 : G 0·28 : Co 34
A W 15 (Deep Draw. Corr. Res.)	Bal.	—	—	—	—	—	—	—	—	Mn 2·0
Aalener Alloy (Bearings) ...	—	—	3·50	—	21·60	—	—	20·50	51·40	Sb 3·00
Abros (Corr. Res. Alloy) ...	—	10	—	—	—	—	88	—	—	Mn 2
Abyssinian Gold	—	—	88	—	—	—	—	—	11·5	Au 0·5
Accumulator Metal (Condenser Foil)	—	—	—	—	90	—	—	9·25	—	Sb 0·75
Acid Bronze	—	—	88	—	2	—	—	10	—	—
,, ,, ...	—	—	82	—	8	—	—	8	2	—
,, ,, ...	—	—	84	—	6·3	—	—	9·5	—	P 0·2
Acieral (Cast & Wrt., Corr. Res.)	Bal.	—	6·0	1·25	—	—	1·0	—	—	—
,, ,, ,, ,, ,, ,,	91·87	—	5·7	0·94	—	0·12	0·98	—	—	Si 0·39
,, ,, ,, ,, ,, ,,	94·7	—	2·3	1·4	—	0·1	—	—	—	Mn 1·5
,, (Sheets)	Bal.	—	3·7	1·3	—	0·2	—	—	—	Mn 1·0
,, (Sheets)	Bal.	—	3·8	0·7	—	0·5	—	—	—	Mn 1·0
"Admiralty Nickel" (Corr. and Heat Res.)	—	—	70	—	—	—	29	1	—	—
Admos Alloys (Forgings, Non-Corr.)	0·03–0·40	—	Bal.	0·65–0·90	0·15–0·80	—	0·10–0·20	0·40–0·70	35·5–40·5	Mn 0–1·25
Admos Alloy	0·40	—	57·24	0·63	0·22	—	0·10	0·63	40·4	Mn tr.
,, ,, ...	—	—	61·25	0·88	0·35	—	0·10	0·39	35·1	Mn 1·26
Adnic (Wrt. H.T. Non-Corr.) ...	—	—	70	—	—	—	29	1	—	—
,, ,, ,, ,, ...	—	—	69–70	0·25 (max.)	—	—	29	1	—	Mn 0·1–0·25 : Si 0·05 (max.) : C 0·04 (max.)
,, ,, ,, ,, ...	—	—	68·4	0·2	—	—	29·3	0·96	—	Mn 1·1
,, ,, ,, ,, ...	—	—	69·12	0·18	—	—	28·23	1·03	0·43	Mn 0·94 : C 0·059 : S 0·01

Description of Alloy.	Aluminium.	Chromium.	Copper.	Iron.	Lead.	Magnesium.	Nickel.	Tin.	Zinc.	Miscellaneous.
Advance Metal (Wrt. Resistance Alloy)	—	—	55	—	—	—	45	—	—	—
,, ,, ,, ,,	—	—	55	—	—	—	Bal.	—	—	Mn. 1·5 (max.)
,, ,, ,, ,,	—	—	53·9	0·5	—	—	44·3	—	—	Mn 1·15
Aeral A (H.T. Cyl. Blocks, etc.)	90·5	—	4·5	—	—	1·2	—	—	—	Mn 0·2 : Cd 1·5 : Si 2·5
,, A (Castings—D T.D. 294)	Bal.	—	2·0–4·5	0·8 (max.)	—	0·2–1·5	—	—	—	Cd 0·5–2·5 : Mn 0·5 (max.) : Si 2·5 (max.) : Ti 0·4 (max.)
Aero Metal (Cast)	Bal.	—	4·2	0·5	—	—	—	—	27·8	Si 0·5
,, ,, ...	85·4	—	6·2	1·0	—	—	0·12	1·45	5·3	Mn 0·1 : Si 0·47
,, ,, (Wrought) ...	94·2	—	0·13	1·4	—	3·1	0·16	0·42	—	Si 0·58
,, ,, (Sheet)	Bal.	—	0·6	1·3	—	2·1	—	—	—	Mn 0·14
,, ,, (Sheet)	Bal.	—	0·2	0·3	—	2·9	—	—	—	Si 0·4
Aerolite (Piston Alloy) ...	85·0	—	14·0	—	—	—	—	—	—	Mn 1·0
,, ,, ,, ...	86	—	12	—	—	—	—	—	—	Mn 2
,, ,, ,, ...	96·93	—	1·15	0·97	—	0·38	—	—	0·12	Si 0·45
Aeromin (Rolling & Forging Al.)	92·7	—	—	0·8	—	6·2	—	—	—	Si 0·3
,, ,, ,, ,, ,,	Bal.	—	—	0·8	—	6·2	—	—	0·3	—
Aeron (Cast, H.T., Non-Corr.)	Bal.	—	4·2	0·3	—	—	—	—	—	Mn 0·5 : Si 1·2
,, ,, ,, ,,	95·9	—	4·0	—	—	—	—	—	—	Li 0·1
,, (Wrought, H.T.) ...	Bal.	—	1·5–2·0	—	—	—	—	—	—	Mn 0·75 : Si 1·0
,, (Rolling and Forging) ...	96·4	—	1·8	—	—	—	—	—	—	Mn 0·8 : Si 1·0
Aeterna (Rolled)	—	—	60·4	—	0·2	—	—	0·3	39	Mn 0·1
Agrilite (Bearing Alloy) ...	—	—	70·49	—	24·00	—	0·09	5·39	—	P 0·005
Aitch Metal	—	—	60	1·5	—	—	—	—	38·2	—
Ajax Bronze	—	—	81·2	—	7·2	—	—	10·9	—	P 0·4
Ajax Bronze	—	—	79·3	—	10·0	—	—	10·0	—	P 0·7
Ajax Plastic Bronze	—	—	65	—	29	—	0·8	5	—	—
,, ,, ,, ...	—	—	64	—	30	—	1·0	5	—	—
,, Standard ,, ...	—	—	77	—	11·5	—	—	11·5	—	—
Akrit (Carbide Cutting Tools)	—	30	—	—	—	—	10	—	—	W 16 : Co 38 : Mo 4 : C 2·5
,, ,, ,, ,,	—	30	—	4	—	—	10	—	—	W 16 : Co 38 : C 2

PERCENTAGE COMPOSITION OF NON-FERROUS ALLOYS—(*continued*).

Description of Alloy.	Alu-minium.	Chrom-ium.	Copper.	Iron.	Lead.	Mag-nesium.	Nickel.	Tin.	Zinc.	Miscellaneous.
Akrit (Carbide Cutting Tools)	—	28·1	—	2·2	—	—	9·1	—	—	W 15·1 : Co 37·9 : Mo 3 : Si 0·9 : V 0·15 : C 3·88
Akron	—	—	63	—	—	—	—	1	36	—
Albatra (Nickel Silver) ...	—	—	57·5	—	1·25	—	18·75	—	22·5	—
Alclad (Duralumin coated with Al.)										
Alcoa Chill-Cast Alloys :										
43	Bal.	—	—	—	—	—	—	—	—	Si 5·0
A108	Bal.	—	4·5	—	—	—	—	—	—	Si 5·5
112	Bal.	—	7·5	1·2	—	—	—	—	2·0	—
B113	Bal.	—	7·5	1·2	—	—	—	—	—	Si 1·5
C113	Bal.	—	7·5	1·2	—	—	—	—	2·0	Si 4·0
122	Bal.	—	10·0	1·2	—	0·2	—	—	—	—
A132	Bal.	—	0·8	0·8	—	1·0	2·5	—	—	Si 12·0
138	Bal.	—	10·0	1·4	—	0·2	—	—	—	Si 4·0
142	Bal.	—	4·0	—	—	1·5	2·0	—	—	—
144	Bal.	—	10·0	—	—	0·2	—	—	—	Si 4·0
B195	Bal.	—	4·5	—	—	—	—	—	—	Si 3·0
D195	Bal.	—	5·5	—	—	—	—	—	—	Si 0·7
A214	Bal.	—	—	—	—	3·8	—	—	2·0	—
355	Bal.	—	1·3	—	—	0·5	—	—	—	Si 5·0
Alcoa Die-Cast Alloys :										
13	Bal.	—	—	—	—	—	—	—	—	Si 12
43	Bal.	—	—	—	—	—	—	—	—	Si 5
81	Bal.	—	7	—	—	—	—	—	—	Si 3
82	Bal.	—	14	—	—	—	—	—	—	Si 5
83	Bal.	—	2	—	—	—	—	—	—	Si 3
85	Bal.	—	4	—	—	—	—	—	—	Si 5
93	Bal.	—	4	—	—	—	4	—	—	Si 2
Alcoa Sand-Cast Alloys :										
12	Bal.	—	8	—	—	—	—	—	—	—
43	Bal.	—	—	—	—	—	—	—	—	Si 5
47	Bal.	—	—	—	—	—	—	—	—	Si 12·5
108	Bal.	—	4	—	—	—	—	—	—	Si 3·0

Description of Alloy.	Aluminium.	Chromium.	Copper.	Iron.	Lead.	Magnesium.	Nickel.	Tin.	Zinc.	Miscellaneous.
Alcoa Sand-Cast Alloys.—Contd.										
109	Bal.	—	12	—	—	—	—	—	—	—
112	Bal.	—	7·5	1·2	—	—	—	—	2·0	—
122	Bal.	—	10	1·2	—	0·2	—	—	—	—
142	Bal.	—	4	—	—	1·5	2·0	—	—	—
195	Bal.	—	4	—	—	—	—	—	—	—
212	Bal.	—	8	1	—	—	—	—	—	Si 1·2
214	Bal.	—	—	—	—	3·8	—	—	—	—
216	Bal.	—	—	—	—	6·0	—	—	—	—
220	Bal.	—	—	—	—	10·0	—	—	—	—
A334	Bal.	—	3·0	—	—	0·3	—	—	—	Si 4·0
355	Bal.	—	1·3	—	—	0·5	—	—	—	Si 5·0
A355	Bal.	—	1·4	—	—	0·5	0·8	—	—	Si 5·0 : Mn 0·8
356	Bal.	—	—	—	—	0·3	—	—	—	Si 7·0
645	Bal.	—	2·5	1·5	—	—	—	—	11·0	—
Alcoa Wrought Alloys :										
3 S	Bal.	—	—	—	—	—	—	—	—	Mn 1·2
4 S	Bal.	—	—	—	—	1·0	—	—	—	Mn 1·2
4 S	Bal.	—	—	—	—	1·0	—	—	—	Mn 1·0
11 S	Bal.	—	5·5	—	0·5	—	—	—	—	Bi 0·5
14 S	Bal.	—	4·4	—	—	0·4	—	—	—	Si 0·8 : Mn 0·8
17 S	Bal.	—	4·0	—	—	0·5	—	—	—	Mn 0·5
A17 S	Bal.	—	2·5	—	—	0·3	—	—	—	—
18 S	Bal.	—	4·0	—	—	0·5	2·0	—	—	—
24 S	Bal.	—	4·4	—	—	1·5	—	—	—	Mn 0·5
27 S	Bal.	—	4·5	—	—	—	—	—	—	Si 0·8 : Mn 0·8
32 S	Bal.	—	0·8	—	—	1·0	0·8	—	—	Si 12·0
51 S	Bal.	—	—	—	—	0·6	—	—	—	Si 1·0
A51 S	Bal.	0·25	—	—	—	0·6	—	—	—	Si 1·0
52 S	Bal.	0·25	—	—	—	2·5	—	—	—	—
53 S	Bal.	0·25	—	—	—	1·3	—	—	—	Si 0·7
56 S	Bal.	0·1	—	—	—	5·2	—	—	—	Mn 0·1
70 S	Bal.	—	1·0	—	—	0·4	—	—	10·0	Mn 0·7
Alcumite (Hi. Ten. Corr. Res. Al.)	6–7	—	87–90	3–4	—	—	—	—	—	Mn 1–2
,, ,, ,, ,, ,,	8·4	—	87·4	4·1	—	—	—	—	—	—

PERCENTAGE COMPOSITION OF NON-FERROUS ALLOYS—(*continued*).

Description of Alloy.	Aluminium.	Chromium.	Copper.	Iron.	Lead.	Magnesium.	Nickel.	Tin.	Zinc.	Miscellaneous.
Alcumite (Hi.Ten. Corr. Res. Al.)	6·5	—	89	3·5	—	—	1	—	—	—
,, ,, ,, ,, ,,	7·5	—	87·5	3·3	—	—	1·7	—	—	—
Alcunic E (Scovill Manfg. Co.)	2·1	—	80·1	—	—	—	1·0	—	16·8	—
,, F ,, ,, ,,	2·2	—	80·8	—	—	—	1·9	—	15·1	—
,, G ,, ,, ,,	2·1	—	70·6	—	—	—	1·4	—	25·9	—
Aldal (Rollg. & Forg. Al., H.T.)	95·8	—	3·4	—	—	0·4	—	—	—	Mn 0·4
Aldrey (Rollg. & Forg. Al., H.T.)	99·0	—	—	—	—	0·4	—	—	—	Si 0·6
,, ,, ,, ,, ,,	Bal.	—	—	0·2 (max.)	—	0·45	—	—	—	Si 0·5
,, (Wire)	Bal.	—	0·01	0·25	—	0·44	—	—	—	Si 0·55
,, ,, ...	Bal.	—	—	0·3 (max.)	—	0·4	—	—	—	Si 0·5–0·6
Aldural E (Sheets and Strips)	Bal.	—	3·0–4·5	1·0 (max.)	—	1·0 (max.)	—	—	—	Si 1·0 (max.) : Mn 1·2 (max.)
,, G ,, ,, ,,	Bal.	—	3·5–4·8	0·4 (max.)	—	0·8–1·8	—	—	—	Mn 0·3–1·5 : Si 0·5 (max.)
Aldurbra (Corr. Res. Cond. Tubes, etc.)	2–5	—	76	—	—	—	—	—	Bal.	—
,, ,, ,, ,, ...	2	—	76	—	—	—	—	—	22	—
Alfenide (Argentan)—range ...	—	—	50–70	—	—	—	10–20	—	5·30	—
,, ...	—	—	59	—	—	—	11	—	30	—
,, ...	—	—	60	1	—	—	9	—	30	—
Alferium (Rollg. & Forg. Al., H.T.)	92·9	—	5·7	—	—	0·7	—	—	—	Mn 0·7
Algiers Metal (White Metal) ...	—	—	5	—	—	—	—	94·5	—	Sb 0·5
,, ,, ,, ,,	—	—	—	—	—	—	—	90	—	Sb 10
,, ,, ,, ,,	—	—	—	—	—	—	—	75	—	Sb 25
Alkusin Alloy (Subs. Brg. Alloy)	90	—	8	0·8	—	—	—	—	—	Si 1·2
Allan No. 2 Bronze	—	—	66	—	25	—	—	9	—	—
Allan Red Bronze	—	—	62·5	—	30	—	—	7·5	—	—
Allan Red Metal	—	—	50	—	50	—	—	—	—	S 0·25
Almag (French Duralumin) ...	96·2	—	2·5	—	—	0·7	—	—	—	Mn 0·6
Almasilium (Rolling and Forging Al., H.T.)	97·0	—	—	—	—	1·0	—	—	—	Si 2·0
Almelec (Rolling and Forging Al., H.T.)	98·5	—	—	0·3	—	0·7	—	—	—	Si 0·5
,, ,, ,, ,,	Bal.	—	—	—	—	1·2	—	—	—	Si 1·2 : Imp. 0·30 (max.)

Description of Alloy.	Aluminium.	Chromium.	Copper.	Iron.	Lead.	Magnesium.	Nickel.	Tin.	Zinc.	Miscellaneous.
Alneon (Strasser Alloy, cast)...	70–90	—	2–3	—	—	—	—	—	22–7	Bal. 0·4–1·0
,, ,, ,, ,, ...	88	—	2·0	—	—	—	—	—	10·0	—
Alpakka	—	—	65·5	—	—	—	13·0	—	19·5	Ag 2·0
Alpax (Cast & Wrt. Corr. Res. Al.)	87	—	—	—	—	—	—	—	—	Si 13
,, ,, ,, ,, ,, ,, ,,	Bal.	—	—	—	—	—	—	—	—	Si 10–13·5
,, ,, ,, ,, ,, ,, ,,	Bal.	—	0·15	0·8	—	—	—	—	0·2	Mn 0·25 : Si 12–13
Alpax Alpha (Castings as cast)	Bal.	—	—	—	—	0·1–0·5	—	—	—	Si 12 : Mn 0·5
Alpax Beta (Castings tempered)	Bal.	—	—	—	—	0·1–0·5	—	—	—	Si 12 : Mn 0·5
Alpax Beta (D.T.D. 240) ...	Bal.	—	—	0·60 (max.)	—	0·60 (max.)	—	—	—	Si 10–13 : Mn 0·60 (max.) : Tot. oth. met. imp. 0·20 (max.)
Alpax Gamma (Castings fully H.T.)	Bal.	—	—	—	—	0·1–0·5	—	—	—	Si 12 : Mn 0·5
Alpax Gamma (D.T.D. 245) ...	Bal.	—	—	0·60 (max.)	—	0·60 (max.)	—	—	—	Si 10–13 : Mn 0·60 (max.) : Tot. oth. met. imp. 0·20 (max.)
Alpax Gamma, typical ...	87·3	—	—	—	—	0·3	—	—	—	Si 12·0 : Mn 0·4
Alpro	—	—	50	—	—	—	50	—	—	—
Altmag Alloy (Cast. & Wrt.) ...	Bal.	—	—	0·13	—	5·5	—	—	—	Mn 0·55 : Ti 0·16 : Si 0·1
Aludur (Rollg. & Forg. Al., H.T.)	98·0	—	—	—	—	0·6	—	—	—	Si 0·9 : Mn 0·5
,, ,, ,, ,, ,, ,,	Bal.	—	—	—	—	0·45–0·8	—	—	—	Si 0·6–1·2
Aludur 533 (Wrt. Alloy) ...	Bal.	—	—	—	—	0·9	—	—	—	Mn 0·5 : Si 0·6
Alufont II (Sand & Die Cast, H.T.)	93·0	—	4·0	—	—	0·2	—	—	—	Si 2·0 : Mn 0·6 : Ti 0·15
,, ,, ,, ,,	Bal.	—	4	0·6 (max.	—	0·2	—	—	—	Si 2·5 : Mn 0·6 : Ti 0·15
Alufont H (Cast)	84·4	—	2·0	1·4	—	0·2	—	—	12·0	—
,, ,, ,, ...	Bal.	—	2·0	1·4	—	0·15	—	—	12·0	—
Alufont W (Cast)	83·5	—	2·0	—	—	—	—	—	12·0	Si 2·0 : Mn 0·5
Alugir (Bearing Alloy) ...	Bal.	—	3	—	—	—	1–1·5	—	0·8	—
Alumac (Die Castings) ...	87·0	—	—	—	—	—	—	—	—	Si 13·0
Alumag (Rolling & Forging Alloy)	95·5	—	—	—	—	4·5	—	—	—	—
,, ,, ,, ,, ,,	Bal.	—	—	—	—	8·0 (max.)	—	—	—	—

PERCENTAGE COMPOSITION OF NON-FERROUS ALLOYS—(*continued*).

Description of Alloy.	Aluminium.	Chromium.	Copper.	Iron.	Lead.	Magnesium.	Nickel.	Tin.	Zinc.	Miscellaneous.
Alumagnese (Cast or Wt. Alloys)	Bal.	—	—	—	—	1·5–8·0	—	—	—	Mn 0–0·6
Aluman (Wrt. Non-Corr. Alloy)	Bal.	—	—	—	—	—	—	—	—	Mn 1–2
,, ,, ,, ,, ,,	98·5	—	—	—	—	—	—	—	—	Mn 1·5
,, ,, ,, ,, ,,	Bal.	—	0·1 (max.)	0·3 (max.)	—	—	—	—	—	Si 0·3 (max.) : Mn 1·5
Alumbro (Corr. Res. Cond. Tubes, etc.)	2	—	76	—	—	—	—	—	22	—
Alumel (Resistance Alloy) ...	2	—	—	0·5	—	—	94	—	—	Mn 2·5 : Si 1
Alumel (Foster Thermocouple Elem.)	—	2	—	—	—	—	98	—	—	—
Aluminite (Casting Alloy) ...	84·0	—	3·0	—	—	—	—	—	23·0	—
,, ,, ,, ...	Bal.	—	2·7	0·4	—	—	—	—	23·3	Si 0·2
Aluminium Alloys :										
Antifriction Alloy	Bal.	—	4·5	—	8	—	—	—	10	—
Artificially Radio-Active ...	73	—	7·5	—	2·4	6·4	—	5·1	—	Si 3·2 : Mn 1·89 : Hg 0·5
Bars (B.S.S. 2 L 32) ...	Bal.	—	2–2·5	1·0 (max.)	—	—	—	—	4·5–5·0	Si 1·0 (max.) : Fe + Si 1·75 (max.) : Oth. met. imp. 0·25 (max.)
Bars and Ext. Sections (Soft) (B.S.S. L. 44)	Bal.	—	—	0·7 (max.)	—	1·0–3·0	—	—	—	Mn 1·5 (max.) : Si 0·7 (max.) : Ti 0·2 (max.)
Bars, Ext. Sect. and Forg. (B.S.S. 2 L. 40 & L. 45)	Bal.	—	1·5–4·0	0·3–1·5	—	0·3–1·5	—	—	—	—
Bars, Ext. Sect., Forg., Sheets, etc. (Aircraft Spec.) ...	Bal.	—	3·5–4·5	0·7 (max.)	—	0·4–0·8	—	—	—	Mn 0·4–0·7 : Si 0·7 (max.) : Ti 0·3 (max.)
Bearing Alloy	Bal.	—	3·5–4·5	—	—	1·2–1·7	1·8–2·3	—	—	W 0·5 : V 0·5
,, ,, ...	93	—	—	—	—	—	7	—	—	—
Bell Metal	83	—	—	—	—	—	—	—	—	Mn 10 : Cd 7
British Chemical Standard	Bal.	—	4·68	0·51	1·51	1·34	1·85	0·05	—	Mn trace : Si 0·39

Description of Alloy.	Aluminium.	Chromium.	Copper.	Iron.	Lead.	Magnesium.	Nickel.	Tin.	Zinc.	Miscellaneous.
Aluminium Alloys.—Contd.										
Castings and Forgings (H.T.)	92·5	—	4	—	—	1·5	2	—	—	—
Castings (Complicated) ...	93	—	4	—	—	—	—	—	—	Si 3
Castings (Die)	92–82	—	8–18	—	—	—	—	—	—	—
,, ,, ...	92	—	3	—	—	—	5	—	—	—
Castings (Die—American) ...	91	—	4	—	—	—	4	—	—	Si 1
,, ,, ,, ...	90·5	—	1·5	—	—	—	—	—	—	Si 8·0
Castings (General Purpose)...	92	—	8	—	—	—	—	—	—	—
,, ,, ,, ...	Bal.	—	6–8	—	—	—	—	—	—	Si 2–4
Castings (Gen. Purp.—Crankcases, etc.)	Bal.	—	2·5–3·0	—	—	—	—	—	12·5–14·5	—
Castings (Crankcases, etc.—B.S.S. No. 363) ...	Bal.	—	2·5–3·0	1·00 (max.)	—	—	—	—	12·5–14·5	Si 1·00 (max.) : Tot. Oth. Imp. 0·10 (max.)
Castings (Gen. Purp.—Cyl. Heads, etc.)	Bal.	—	1·25	—	—	0·5	—	—	—	Si 5
Castings (Gen. Purp.—not Pistons)...	Bal.	—	4–5	—	—	—	—	—	—	Si 0·85
Castings (Gravity Die) ...	Bal.	—	2·0	—	—	—	2·0	—	—	Si 4·0
Castings (Heat Resisting—Pistons, etc.)	Bal.	—	9–11	1·25 (max.)	—	0·25	—	—	—	—
Castings, H.T. (High Strength Corr. Res.)	Bal.	—	—	—	—	10	—	—	—	—
Castings, H.T., for Stressed Parts	94	—	5	—	—	—	—	—	—	Si 1
Castings, H.T., High Strength for Aircraft	Bal.	—	4	—	—	—	—	—	—	—
Castings, H.T., Low Expansion for Pistons ...	Bal.	—	0·8	0·8	—	1·0	2·5	—	—	Si 12·0
Castings, Modified, Gen. Purpose	Bal.	—	—	—	—	—	—	—	—	Si 10–15
Castings, Sand C., H.T., for Cyl. Heads, etc. ...	Bal.	—	1·4	—	—	0	0·75	—	—	Mn 0·75 : Si 5·0

PERCENTAGE COMPOSITION OF NON-FERROUS ALLOYS—(*continued*).

Description of Alloy.	Aluminium.	Chromium.	Copper.	Iron.	Lead.	Magnesium.	Nickel.	Tin.	Zinc.	Miscellaneous.
Aluminium Alloys—Contd.										
Castings, Sand or Die (Strong Corr. Res.)	Bal.	—	—	—	—	0·3	—	—	—	Si 7·0
,, ,, ,, ,,	Bal.	—	—	—	—	—	—	—	—	Si 5·0
Castings (Strong and Ductile)	95·75	—	2·50	1·25	—	0·50	—	—	—	—
Castings (Most Corr. Res.) ...	—	—	0·1 (max.)	0·4 (max.)	—	3·25–4.25	—	—	0·05 (max.)	Si 0·25 (max.) : Mn 0·6 (max.) : Ti 0·2 (max.) : Oth. Imp. (ea.) 0·05 (max.)
Cothias Alloy	93	—	6·5	—	—	—	—	—	0·5	—
Dental Alloy	93	—	2·25	—	—	—	—	—	—	Au 4·75
Forgings (Anti-Corrosive) ...	Bal.	0·01–0·20	0·5 (max.)	0·3–1·5	—	0·1–4·0	0·5–2·5	—	—	Mn 0·2 (max.) : Si 0·5–5·0 : Ti 0·5 (max.)
Forgings	Bal.	—	4·4	—	—	—	—	—	—	Si 0·8 : Mn 0·75
Forgings, H.T., for Aircraft	Bal.	—	4·5	—	—	—	—	0·05	—	Mn 0·8 : Si 0·8
Forgings, H.T., for Difficult Forgings	Bal.	0·25	—	—	—	0·6	—	—	—	Si 1·0
Forgings, H.T., High Strength	Bal.	—	4·4	—	—	0·35	—	—	—	Mn 0·75 : Si 0·8
Framework (U.S.S. Akron)	Bal.	—	4·0	—	—	0·5	—	—	—	Mn 0·5
Free-Cutting Alloy	Bal.	—	2·7–3·3	—	—	0·45–0·55	—	0·2 (max.)	—	Sb 0·5–0·7
Low-Expansion Alloy ...	Bal.	—	0·75	—	—	1·0	2	—	—	Si 14
"N" Alloy (U.S. Navy Dept.)	91	—	6	—	—	—	—	—	—	Mn 3
No. 4 Alloy (U.S. Navy Dept.)	96	—	4	—	—	—	—	—	—	—
Piston Alloy	95	—	—	—	—	—	5	—	—	—
,, ,, ...	90	—	10	—	—	—	—	—	—	—
,, ,, ...	88·32	—	10	1·25	—	0·25	—	—	—	Imp. 0·11
,, ,, ...	88	—	12	—	—	—	—	—	—	—
,, ,, ...	95·0	—	2·5	—	—	1·0	1·5	—	—	—
,, ,, ...	92·5	—	5·0	—	—	—	0·5	—	1·5	—
,, ,, No. 132 (Russian)	Bal.	—	0·8	0·7	—	1	2·3	—	—	Si 14
,, ,, (R.A.F.) ...	88·9	0·5	2·0	—	—	0·5	5·0	—	—	Mn 3·0 : Ti 0·1
,, ,, (S.A.E. 32) ...	Bal.	—	10	1·2	—	2	—	—	—	Si 0·6
Pistons, Cast (Air Serv. Alloy)	92·5	—	4	—	—	1·5	2	—	—	—

Description of Alloy.	Aluminium.	Chromium.	Copper.	Iron.	Lead.	Magnesium.	Nickel.	Tin.	Zinc.	Miscellaneous.
Aluminium Alloys—Contd.										
Pistons, Die-Cast (Used as cast)	Bal.	0·5–5·0	6–12	—	—	0·5–2·5	1–3	—	—	—
Print Rollers for Wall Paper	Bal.	—	—	—	—	3·5–6·0	—	—	1·3–3·5	—
,, ,, ,, ,, ,,	84	—	—	—	—	—	—	10	6	—
Resistant to Bleach ...	Bal.	—	2	—	—	—	2	—	—	Mn 2
Resistant to Sea Water	Bal.	—	—	—	—	—	—	—	—	Ti 0·5–1·0
Rods and Wires for Rivets (D.T.D. 198A)	Bal.	—	—	0·5 (max.)	—	6·5–10·0	—	—	—	Mn 0·6 (max.) : Si 0·5 (max.)
Rods and Wires for Rivets (D.T.D. 303)	Bal.	—	—	0·5 (max.)	—	4·5–5·5	—	—	—	Mn 0·6 (max.) : Si 0·5 (max.)
Rolling Alloy	98·5	—	—	—	—	—	—	—	—	Mn 1·5
,, ,, ...	94·5	—	2·0	—	—	—	—	—	2·0	Mn 1·5
S.A.E. Casting Alloys : ...										
30	Bal.	—	7–8·5	—	—	—	—	—	0·2 (max.)	—
31	Bal.	—	2·25–3·25	—	—	—	—	—	12·5–14·5	Fe + Si 1·75 (max.)
31A	Bal.	—	2–3·5	1·25–1·75	—	—	—	—	9–11·5	—
33	Bal.	—	7·5 (max.)	1·2 (max.)	—	—	—	—	1·75 (max.)	—
34	Bal.	—	9·25–10·75	1·5 (max.)	—	0·15–0·35	—	—	0·2 (max.)	Si 0·5 (max.) : Mn 0·6 (max.)
35	Bal.	—	0·4 (max.)	0·8 (max.)	—	0·05 (max.)	—	—	—	Si 4·5–6·0 : Mn 0·3 (max.) : Ti 0·2 (max.)
36	Bal.	—	7·5 (max.)	1·0 (max.)	—	—	—	—	—	Si 1·2 (max.)
37	Bal.	—	0·3 (max.)	0·8 (max.)	—	0·05 (max.)	—	—	0·2 (max.)	Si 12–13 : Mn 0·3 (max.)
38	Bal.	—	4–5	1·2 (max.)	—	0·05 (max.)	—	—	0·2 (max.)	Si 1·2 (max.) : Mn 0·3 (max.)
39	Bal.	—	3·75–4·25	0–1·0	—	1·2–1·7	1·8–2·3	—	—	Si 0·7 (max.)
322...	Bal.	—	1–1·5	0·5 (max.)	—	0·4–0·6	—	—	—	Si 4·5–5·5
S.A.E. Wrought Alloys (Cold Worked) :										
20	Bal.	—	—	—	—	0·9–1·4	—	—	—	Mn 0·9–1·4
29	Bal.	—	0·2 (max.)	—	—	—	—	—	—	Mn 1·0–1·5

PERCENTAGE COMPOSITION OF NON-FERROUS ALLOYS—(*continued*).

Description of Alloy.	Aluminium.	Chromium.	Copper.	Iron.	Lead.	Magnesium.	Nickel.	Tin.	Zinc.	Miscellaneous.
Aluminium Alloys.—Contd.										
S.A.E. Wrought Alloys (Heat Treated) :										
24	Bal.	—	3·6–4·7	—	—	1·25–1·75	—	—	—	Mn 0·3–0·9
26	Bal.	—	3·5–4·5	—	—	0·2–0·75	—	—	—	Mn 0·4–1·0
27	Bal.	—	3·9–5·0	—	—	—	—	—	—	Si 0·5–1·1 : Mn 0·5–1·1
28	Bal.	—	—	—	—	0·45–0·90	—	—	—	Si 0·6–1·2
Sheet	Bal.	—	0–4	—	—	0–0·6	0–1·25	—	—	Si 0–4 : Mn 0–1·25
Sheet and Plate (A.S.T.M. B79–36T)	97 (min.)	—	0·2 (max.)	—	—	—	—	—	—	Mn 1–1·5
Sheets and Coils, Soft (B.S.S. L.46)	Bal.	—	—	—	—	1·0–6·0	—	—	—	Mn 1·5 (max.) : Si 0·7 (max.)
Sheets & Coils (B.S.S. L.47)	Bal.	—	1·5–4·5	0·3–1·0	—	0·3–1·0	—	—	—	—
Sheets & Strips (D.T.D. 213)	Bal.	—	0·15 (max.)	0·75 (max.)	—	—	—	—	—	Mn 1·5 (max.) : Si 0·6 (max.)
Tubes (B.S.S. 4T4)	Bal.	—	3·5–4·5	0·70 (max.)	—	0·4–0·7	—	—	—	Mn 0·4–0·7 : Si 0·70 (max.) : Ti 0·30 (max.)
Aluminium-Boron Alloy (Hardener)	Bal.	—	—	—	—	—	—	—	—	B 20–25
Aluminium Brass :										
Scovill Manfg. Co.	2·6	—	77·4	—	—	—	—	—	20·0	—
,, ,, ,, ...	2·1	—	77·3	—	—	—	—	—	20·6	—
Strong Anti-Corrosive ...	0·5–1·5	—	59–61	—	—	—	—	—	40–38	—
,, ,, ,, ...	1–3	—	68–70	—	—	—	—	—	31–27	—
Tubes for Condensers, etc....	2	—	76	—	—	—	—	—	22	—
Tubes for Condensers, etc. (Admty.)	1·8–2·3	—	76–78	—	0·03 (max.)	—	—	—	Bal.	As 0·01–0·05 : Tot. Imp. (incl. Pb) 0·30 (max.)
Usual Range	1·25–3·5	—	67–71	—	—	—	—	—	31·75–25·5	—

Description of Alloy.	Aluminium.	Chromium.	Copper.	Iron.	Lead.	Magnesium.	Nickel.	Tin.	Zinc.	Miscellaneous.
Aluminium Bronze :										
Acid-Resisting	9·8	—	87	2·5	—	—	—	—	—	W 0·7
Bars, Forg. & Stamp.(D.T.D. 164)	9–10	—	Bal.	0·5–2·5	Nil	—	1–3	—	—	Tot. Imp. 0.75 (max.)
Bearing Alloy	5–9·5	—	78·5–92·8	0·1–3·0	—	—	0·1–3·0	—	—	Mn 1–6
Bolts, &c., for Underwater Fittgs.	9·2–10	—	89·5–90·7	—	—	—	—	—	—	Mn 0·1–0·4 : Imp. 0·15 (max.)
Castings (A.S.T.M. B59–36) Grade A (as cast) ...	7–9	—	87–89	2·5–4	—	—	—	0·5 (max.)	—	Tot. oth. imp. 1·0 (max.)
,, B (H.T.) ...	9·5–10·5	—	89·5–90·5	1·25 (max.)	—	—	—	0·2 (max.)	—	Tot. oth. imp. 0·5 (max.)
Castings (Anti-Corrosive) ...	5–10	—	80–90	—	—	—	5–10	—	—	—
Castings (Admty. Elect.) ...	8–11	—	Bal.	3·0 (max.)	—	—	3·0 (max.)	—	—	Oth. met. constit. 0·5 (max.)
Corr. Res.	10	2	82	—	—	—	6	—	—	—
Danish Mint	6	—	92	—	—	—	2	—	—	—
Die Castings	8–10·5	—	Bal.	1·5–3·5	—	—	—	0·4 (max.)	—	Tot. Imp. (incl. Sn) 1·0 (max.)
Forging Alloy (American) ...	7–9	—	85–89	2·5–4·5	—	—	—	0·5 (max.)	—	Tot. oth. imp. 0·25 (max.)
,, ,, ,, ...	9	—	88	3	—	—	—	—	—	—
Forgings—Ex. V. Seats (D.T.D. 135)	9·75–10·5	—	Bal.	—	—	—	1–1·5	—	—	Tot. Imp. 0·3 (max.)
Gen. Purp. (as cast) (American)	9	—	88	3	—	—	—	—	—	—
Hard Alloy (H.T.) (American)	10	—	87	3	—	—	—	—	—	—
High Ten., Fr. Navy (1930)	8·2–10·5	—	Bal.	0–5·5	—	—	0–6·4	—	—	Mn 0–4·0
Range	7–10	—	Bal.	1–4	—	—	—	—	—	—
Standard Composition ...	10	—	90	—	—	—	—	—	—	—
Turbine Blading	9·77	—	79·63	4·8	—	—	4·13	—	—	Mn 0·94
,, ,, ...	11·5	—	79·0	4·5	—	—	5·0	—	—	—

PERCENTAGE COMPOSITION OF NON-FERROUS ALLOYS—(*continued*).

Description of Alloy.	Aluminium.	Chromium.	Copper.	Iron.	Lead.	Magnesium.	Nickel.	Tin.	Zinc.	Miscellaneous.
Aluminium Bronze.—Contd.										
Valve Seats	9–9·8	—	Bal.	3·5	0·15 (max.)	—	—	—	—	Tot. Imp. 0·75 (max.)
Valve Seats (D.T.D. 160) ...	9–9·8	—	Bal.	—	0·15 (max.)	—	—	—	—	Tot. Imp. 0·75 (max.)
Worm Wheels of Ford Trucks	9	—	87·5	3·5	—	—	—	—	—	—
Wrought Alloy (American)	7–9	—	85–87	2·5–4·5	—	—	—	0·50 (max.)	—	Tot. Oth. Imp. 0·25 (max.)
Aluminium-Copper Hardener	67	—	33	—	—	—	—	—	—	—
,, ,, ,,	50	—	50	—	—	—	—	—	—	—
,, ,, ,,	40	—	60	—	—	—	—	—	—	—
Aluminium-Copper-Iron Hardener	70	—	20	10	—	—	—	—	—	—
,, ,, ,,	62·5	—	25	12·5	—	—	—	—	—	—
Aluminium-Iron Hardener ...	90	—	—	10	—	—	—	—	—	—
,, ,, ...	50	—	—	50	—	—	—	—	—	—
Aluminium-Magnesium-Beryllium Alloy	Bal.	—	0·05	0·09	—	1·2	—	—	—	Si 0·14 : Be 0·8
Aluminium-Manganese Hardener	Bal.	—	—	—	—	—	—	—	—	Mn 75 (max.)
,, ,, ,, ...	75	—	—	—	—	—	—	—	—	Mn 25
,, ,, ,, ...	80	—	—	—	—	—	—	—	—	Mn 20
Aluminium-Molybdenum Hardener	Bal.	—	—	—	—	—	—	—	—	Mo 5
Aluminium-Nickel Hardener...	90	—	—	—	—	—	10	—	—	—
Aluminium-Silicon Alloy B (Brit. Chem. Std.)	Bal.	—	0·010	0·34	—	—	—	—	0·020	Si 12·74 : Mn 0·005: Ti 0·006
Aluminium-Silicon Hardener...	75	—	—	—	—	—	—	—	—	Si 25
,, ,, ,, ...	50	—	—	—	—	—	—	—	—	Si 50
,, ,, ,, ...	40	—	—	—	—	—	—	—	—	Si 60
Aluminium-Silicon-Beryllium Alloy	Bal.	—	0·05	0·08	—	—	—	—	—	Si 0·8 : Be 0·4
Aluminium Silver	95	—	—	—	—	—	—	—	—	Ag 5
,, ,, ...	3	—	57	—	—	—	20	—	20	—

Description of Alloy.	Aluminium.	Chromium.	Copper.	Iron.	Lead.	Magnesium.	Nickel.	Tin.	Zinc.	Miscellaneous.
Aluminium Solder	—	—	—	—	—	—	—	85–50	15–50	—
,, ,, ...	—	—	—	—	—	—	—	65	30	Bi 5
,, ,, ...	12	—	8	—	—	—	—	—	80	—
,, ,, ...	—	—	—	—	—	—	—	—	57	Cd 43
,, ,, ...	5–12	—	—	—	—	—	—	Bal.	8–15	—
,, ,, ...	—	—	—	—	47·5	—	—	47·5	—	Ca 5
,, ,, ...	—	—	1·1	—	26·06	—	—	49·5	20·31	Sb 3·43
,, ,, ...	10	—	—	—	—	—	—	85	—	P. Sn 5
Aluminium Solder:										
T.S. 6,000 lb./in.²	—	—	1·5	—	12·5	—	—	33	50	Sb 2 : Bi 1
T.S. 6,700 lb./in.²	7	—	—	—	—	—	—	53	40	—
T.S. 7,100 lb./in.²	15	—	1	—	—	—	—	67·5	16·5	—
High Strength	3	—	3	—	—	—	—	56·4	37·6	—
Automobile Works	1·0	—	—	—	—	—	—	63·0	33·0	P 3·0
Bourbouse	18·18	—	—	—	—	—	—	—	81·82	—
Bur. of Stds—SN1	9	—	—	—	—	—	—	78	8	Cd 4
Bur. of Stds—SN2	2·4	—	—	—	—	—	—	69	26	P 2·4
Bur. of Stds—SN3	5	—	—	—	—	—	—	86	9	P 0·25
Bur. of Stds—SN4	5	—	—	—	—	—	—	86	9	—
Burgess	3	—	—	—	—	—	—	76	21	—
Cornande & Cruiys	17·5	—	—	—	—	—	0·5	30	52	—
Fludor	—	—	0·1	—	3·1	—	—	56·5	40·0	Sb 0·2
Frismuth	10·5	—	5·5	—	—	—	—	31·5	47·5	Ag 5·5
,, ...	10·5	—	5·3	—	—	—	—	36·8	47·4	—
,, ...	3	—	—	—	27	—	—	67	—	—
Gramp's	—	—	3·0	—	0·25	—	—	60·42	36·06	Sb 0·18
Grimm	—	—	—	—	28·8	—	—	69·1	1·44	Ag 0·72
,, ...	—	—	—	—	25	—	—	50	25	—
Mourey	4	—	2	—	—	—	—	—	94	—
,, ...	12	—	8	—	—	—	—	—	80	—
Richards	3·5	—	—	—	—	—	—	71·5	25	—
Russian I	18	—	—	—	—	—	—	30	52	—
Russian II	—	—	—	—	—	—	—	55	25	Cd 20
Wegner & Guhr	—	—	—	—	—	—	—	80	20	—
Willmott	—	—	—	—	—	—	—	86	—	Bi 14

PERCENTAGE COMPOSITION OF NON-FERROUS ALLOYS—(*continued*).

Description of Alloy.	Aluminium.	Chromium.	Copper.	Iron.	Lead.	Magnesium.	Nickel.	Tin.	Zinc.	Miscellaneous.
Aluminium Solder.—Contd.										
No. 1 (M. Pt. 195–350° C.)...	—	—	3	—	1	—	—	46	50	—
No. 3	1	—	—	—	—	—	—	63	36	—
No. 4 (M. Pt. 264–375° C.) ...	5	—	—	—	—	—	—	87	8	—
No. 6 (M. Pt. 211·4° C.) ...	—	—	—	—	0·3	—	—	54	45·5	—
No. 7	—	—	—	—	—	—	—	89	—	Cd 11
No. 8 (M. Pt. 185–369° C.) ...	—	—	—	—	44	—	—	36	20	—
No. 9 (M. Pt. 270–358° C.) ...	—	—	—	—	—	—	—	—	60	Cd. 40
No. 10	—	—	1·0	—	0·5	—	—	72·3	22·5	Sb 0·2 : Ag 3·5
No. 11 (M.Pt. 370° C.) ...	1	—	—	—	—	—	—	34	65	—
No. 12 (M.Pt. 135-150° C.)	—	—	—	—	—	—	—	36	—	Bi 64
No. 13 (M.Pt. 228-503° C.)	11	—	3	—	8	—	—	62	15	Sb 1
No. 14 (M.Pt. 195-360° C.)	0·1	—	0·2	—	1	—	—	49	50	—
No. 15	13	—	3	—	1	—	—	63	18	Sb 2
No. 16	11	—	1	—	—	—	—	55	33	—
No. 18 (M.Pt. 200-460° C.)	5	—	—	—	—	—	—	84	9	P. Sn 2
No. 20	—	—	—	—	5	—	—	73	21	P. Sn 1
Aluminium-Tantalum-Columbium Hardener ...	65	—	—	—	—	—	—	—	—	Ta + Cb 35
Aluminium-Titanium Hardener	50	—	—	—	—	—	—	—	—	Ti 50
Aluminium-Tungsten Hardener	95	—	—	—	—	—	—	—	—	W 5
Aluminium-Vanadium Hardener	50	—	—	—	—	—	—	—	—	V 50
Aluminium-Zirconium Hardener	Bal.	—	—	—	—	—	—	—	—	Zr 45-50
Alunite	98·6	—	0·1	0·6	—	—	—	—	—	Mn 0·5 : Si 0·2
Alusil (Piston Alloy)	77·5	—	1·5	—	—	—	1·0	—	—	Si 20·0
,, ,, ,, ...	75–77·7	—	1	0·3–1·0	—	—	—	—	—	Si 21–23
Aluvac (French—as *Alpax*) ...	87	—	—	—	—	—	—	—	—	Si 13
Alzene	66·66	—	—	—	—	—	—	—	33·33	—
Amaloy...	—	—	0·02	—	95·6	—	—	3·6	—	—
Amax Metal	—	—	81·3	—	7·4	—	—	11	—	P 0·3
Ambrac A (Wrt.—Cond. Tubes, etc.)	—	—	75	—	—	—	20	—	5	—
,, ,, ,, ,, ,,	—	—	74·5	—	—	—	20	—	5	Mn 0·5
Ambrac B (Wrt.—Cond. Tubes, etc.)	—	—	65	—	—	—	30	—	5	—

Description of Alloy.	Aluminium.	Chromium.	Copper.	Iron.	Lead.	Magnesium.	Nickel.	Tin.	Zinc.	Miscellaneous.
Ambrac B (Wrt.—Cond. Tubes, etc.)	—	—	64	—	—	—	29·4	—	5·6	—
,, ,, ,, ,, ,,	—	—	64·5	—	—	—	30·0	—	5	Mn 0·5
,, ,, ,, ,, ,,	—	—	64	—	—	—	29	—	5·5	Mn 0·5
Ambro (Wrt.—Cond. Tubes, etc.)	2	—	76	—	—	—	—	—	22	—
American Silver (Cast) ...	0·13	—	49·36	1·3	—	—	24·2	0·45	20·7	Mn 3·83
,, ,, ,, ...	—	—	57·7	0·6	1·5	—	15·3	0·69	24·2	—
Ampco Metal (Hi. Ten. Corr. Res.)	7–11	—	Bal.	1–3	—	—	—	—	—	—
,, ,, ,, ,, ,,	8–10	—	80–90	6–7	—	—	—	—	—	—
Anatomical Alloy (M. Pt. 60° C.)	—	—	—	—	17	—	—	19	—	Bi 53·5 : Hg 10·5
Anhyster (Hi. Perm. Alloy) ...	—	—	—	Bal.	—	—	45–50	—	—	—
Anode Metal	—	—	—	—	94	—	—	—	—	Sb 6
Anode Metal (for Zinc) ...	—	—	—	—	98·8	—	—	—	—	Ag 1 : As 0·2
Anticorodal (Cast) (Corr. Res.)	Bal.	—	—	—	—	0·3–2	—	—	—	Si 2–5 : Mn 0·5–1
,, ,, ,, ,,	Bal.	—	—	—	—	0·65	—	—	—	Si 2·25 : Mn 0·7
,, ,, ,, ,,	Bal.	—	0·1 (max.)	0·45 (max.)	—	0·7	—	—	—	Si 5 : Mn 0·7 : Ti 0·15
,, (Wrought) Corr. Res.)	97·6	—	—	—	—	0·7	—	—	—	Si 1·0 : Mn 0·7
,, ,, ,, ,,	97·8	—	—	—	—	0·6	—	—	—	Si 1·0 : Mn 0·6
,, ,, ,, ,,	Bal.	—	—	—	—	0·5–2	—	—	—	Si 0·3–1·5 : Mn 0–1·5
Anticorodal A (Wrought) ...	Bal.	—	—	0·3 (max.)	—	0·7	—	—	—	Si 1·0 : Mn 0·7
,, B (Wrought) ...	Bal.	—	—	0·3 (max.)	—	0·7	—	—	—	Si 1·0 : Mn 0·7
,, B (Round Bar) ...	Bal.	—	0·01	0·25	—	0·72	—	—	—	Si 0·98 : Mn 0·65
,, B (Wire) ...	Bal.	—	0·02	0·22	—	0·70	—	—	—	Si 1·02 : Mn 0·68
Antimonial Lead	—	—	—	—	87	—	—	—	—	Sb 13
,, ,, ...	—	—	—	—	80	—	—	—	—	Sb 20
Antimony-Base Bearing Alloys:										
For High Speed Shafts ...	—	—	6	—	—	—	—	17	—	Sb 77
Of Great Hardness	—	—	25	—	—	—	—	—	—	Sb 75
,, ,, ,, ...	—	—	4	—	—	—	—	12	2	Sb 82
Anvil Brass	—	—	62·5	—	—	—	—	—	37·5	—

PERCENTAGE COMPOSITION OF NON-FERROUS ALLOYS—(*continued*).

Description of Alloy.	Aluminium.	Chromium.	Copper.	Iron.	Lead.	Magnesium.	Nickel.	Tin.	Zinc.	Miscellaneous.
Aphit	—	—	75	—	—	—	21	—	2·2	Cd 1·8
,, ...	—	—	70	—	—	—	20	—	5·5	Cd 4·5
Argent Français	—	—	59·5	—	—	—	3·5	—	9·5	Ag 27·5
,, ,, ...	—	—	42·5	—	—	—	8·5	—	15·75	Ag 33·25
,, ,, ...	—	—	35	—	—	—	25	—	—	Ag 40
,, ,, ...	—	—	40	—	—	—	27	—	—	Ag 33
,, ,, ...	—	—	50	—	—	—	30	—	—	Ag 20
Argental	—	—	85	—	—	—	—	10	—	Co 5
Argentan	—	—	52	—	—	—	26	—	22	—
,, ...	—	—	56	1	—	—	26	—	18	—
,, (Castings—German)	—	—	48·32	3·61	—	—	24·15	—	23·80	—
,, (Castings—Russian)	—	—	57·52	3·15	—	—	20·35	—	18·94	—
,, (Sheet)	—	—	40–65	—	—	—	15–20	—	17–32	—
Argentin	—	—	0·5	—	—	—	—	85·0	—	Sb 14·5
Argilite	90·0	—	6·0	—	—	—	—	—	—	Si 2·0 : Bi 2·0
Argoid Metal	—	—	52·6	—	—	—	21·6	—	25·8	—
Argozil	—	—	54	—	2	—	14	2	28	—
Arguzoid	—	—	55·78	—	3·54	—	13·45	4·03	23·2	—
Argyrolith	—	—	50–70	—	—	—	10–20	—	5–30	—
Arko Metal	—	—	80	—	—	—	—	—	20	—
Arms Bronze (Hi. Ten. Corr. Res.)	8–12	—	Bal.	2–5	—	—	0·5–2·0	—	—	Mn 0·5–2·0
Arsenic Bronze (Dudley) ...	—	—	89	—	—	—	—	10	—	As 0·8
,, ,, ,, ...	—	—	79·1	—	9·5	—	—	10	—	As 1·4
,, ,, B (Dudley) ...	—	—	82·2	—	7·0	—	—	10	—	As 0·8
,, ,, C (Dudley) ...	—	—	79·7	—	9·5	—	—	10	—	As 0·8
Art Bronze	—	—	80–90	—	1–3	—	—	3–8	1–10	—
Asarcoloy No. 7 (Hi. Duty Brg. Service)	—	—	—	—	—	—	1·3	—	—	Cd Bal.
Ashberry Metal	—	—	2·8	—	—	—	—	77·8	—	Sb 19·4
,, ,, ...	—	—	—	—	—	—	—	77·8	2·8	Sb 19·4
,, ,, ...	—	—	2	—	—	—	—	80	1	Sb 14 : Bal. 3
,, ,, ...	—	—	3	—	—	—	—	79	2	Sb 15 : Bal. 1
Aterite (Cast)	0·17	—	66·75	1·58	0·18	—	13·92	—	17·25	Mn 0·23
,, (Rolled)	—	—	46·96	1·90	—	—	10·82	—	38·00	Mn 2·24

Description of Alloy.	Alu-minium.	Chrom-ium.	Copper.	Iron.	Lead.	Mag-nesium.	Nickel.	Tin.	Zinc.	Miscellaneous.
Auer Metal (Pyrophoric) ...	—	—	—	35	—	—	—	—	—	Ce 35 : La 24 : Yt 3 : Er. 2
Augsburg Brass	—	—	71·9	—	0·85	—	—	—	27·6	—
Avialite (Amer. Brass Co.) (Valve Seats)	9·5	—	90	0·5	—	—	—	—	—	—
Aviol (Rollg. & Forg. Al., H.T.)	98·7	—	—	—	—	0·6	—	—	—	Si 0·7
Avional (Wrt., H.T.—Duralumin Equiv.)	Bal	—	3·5–5·5	—	—	0·2–2	—	—	—	Si 0·2–1·5 : Mn 0·1–1·5
Avional (Rod)	Bal	—	4·0	—	—	0·7	—	—	—	Si 0·7 : Mn 0·7
Avional D (Wrt., H.T.—Duralumin Equiv.) ...	Bal.	—	3·8	0·3 (max.)	—	0·55	—	—	—	Si 0·3(max.):Mn 0·5
,, ,, ,, ,,	94·5	—	4·0	—	—	0·5	—	—	—	Si 0·5 : Mn 0·5
,, ,, ,, ,,	Bal.	—	3·85–3·94	0·3	—	0·53	—	—	—	Si 0·56 : Mn 0·47
,, ,, ,, ,,	94·2	—	4·3	—	—	0·6	—	—	—	Si 0·4 : Mn 0·5
Avional D (Round Bar) ...	Bal.	—	3·78	0·25	—	0·55	—	—	—	Si 0·28 : Mn 0·58
,, D (Wire)	Bal.	—	3·85	0·28	—	0·52	—	—	—	Si 0·25 : Mn 0·55
,, S (Wrought)	Bal.	—	4·4	0·3 (max.)	—	1·0	—	—	—	Si 0·3 (max.) : Mn 0·5
,, SK (Wrought) ...	93·43	0·23	4·28	0·26	—	0·85	—	—	—	Si 0·33 : Mn 0·62
,, SS (Wrought) ...	Bal.	—	4·3	—	—	1·4	—	—	—	Si 0·5 : Mn 1·4
,, Z (Wrought)	Bal.	—	4·5	—	—	0·8	—	—	—	Si 0·5 : Mn 0·7
B—83 (Conn. Rod Big-End Brgs.)	—	—	5·3	—	—	—	—	83·4	—	Sb 11·1
B 214 (Pipe Fittings—Dist. Water Syst.)	Bal.	—	—	—	—	3·75	—	—	—	Si 1·75
BA. 20 (Wrought—Sheet and Strip)	Bal.	—	—	—	—	1·2–1·4	—	—	—	Mn 0·9–1·1
,, ,, ,, ,,	Bal.	—	—	—	—	3·0 (max.)	—	—	—	Mn 1·5 (max.)
BA. 23 (Corr. Res.—Simple Castings)	Bal.	—	—	—	—	1·25	—	—	—	Si 0·6
BA. 24 (Ext. Sections) ...	Bal.	—	—	—	—	0·5	—	—	—	Si 0·5
BA. 24 MS (Machining Rod)...	Bal.	—	—	—	—	0·5	—	—	—	Si 0·5

PERCENTAGE COMPOSITION OF NON-FERROUS ALLOYS—(*continued*).

Description of Alloy.	Alu-minium.	Chrom-ium.	Copper.	Iron.	Lead.	Mag-nesium.	Nickel.	Tin.	Zinc.	Miscellaneous.
BA. 25 (Ext. Sections) ...	Bal.	—	—	—	—	1·0	—	—	—	Si 1·0
BA. 29 (Sand or Die Cast—Not pistons)	Bal.	—	—	—	—	9·5–10·5	—	—	—	—
BA. 29 (D.T.D. 300)	Bal.	—	0·15 (max.)	0·3 (max.)	—	9·5–10·5	—	—	—	Si 0·25 (max.) : Oth. Imp. 0·25 (max.)
BA. 30 (Ext. Sections and Rod)	Bal.	—	1·5	—	—	—	—	—	—	—
BA. 31 (Cast-Alloy)	Bal.	—	5–6	—	—	—	—	—	—	—
BA. 34 (Casting Alloy) ...	Bal.	—	10·0	1·25	—	0·25	—	—	—	—
BA. 35 (Rod for Machining)	Bal.	—	2·5–4·0	0·75	—	0·4–0·8	—	—	—	plus Sb and Sn
,, ,, ,, ,, ,,	Bal.	—	2·7–3·3	0·6 (max.)	—	0·25–0·5	0·05 (max.)	0·2 (max.)	0·15 (max.)	Sb 0·35–0·6 : Si 0·45 (max.)
BA. 37 (Diff. Die Castings) ...	Bal.	—	6–8	—	—	—	—	—	—	Si 2·0
,, ,, ,, ,, ,, ...	Bal.	—	8	—	—	—	—	—	—	Si 2·0
BA. 40D (Cast and Wrt.—Corr. Res.)	Bal.	—	—	—	—	—	—	—	—	Si 10–13
,, ,, ,, ,, ,,	Bal.	—	—	—	—	—	—	—	—	Si 11·0
BA. 40J (Sand or Die Cast) ...	Bal.	—	—	—	—	—	—	—	—	Si 7·5–8·5
BA. 40 M (Sand or Chill Cast—H.T.)	Bal.	—	—	—	—	0·4	—	—	—	Si 12 : Mn 0·35
,, ,, ,, ,, ,, ,,	Bal.	—	—	—	—	0·4	—	—	—	Si 12 : Mn 0·4
BA. 42 (Low Ex. Piston Alloy)	Bal.	—	1·0	0·5	—	1·0	2·5	—	—	Si 12
BA. 50 (Sheet and Strip) ...	Bal.	—	—	—	—	—	2·0	—	—	—
BA. 60 A (Sheet, Strip, Ext. Sections)	Bal.	—	—	—	—	—	—	—	—	Mn 1·25
,, ,, ,, ,, ,, ,,	Bal.	—	0·15 (max.)	0·75 (max.)	—	—	—	—	—	Mn 1·5 (max.)
BA. 60 A (Sheet, Strip, Ext. Sect.)	Bal.	—	—	—	—	—	—	—	—	Mn 1·5 (max.)
BA. 76 (Rod for Mach. & Ext. Sect.)	Bal.	—	1·5–2·0	—	—	—	—	—	8·0–10·0	—
B.B.D.C. Standard Alloy ...	—	—	88·5	—	0·25	—	1·0	10	—	P 0·25
BS—Seewasser (Corr. Res.) ...	Bal.	—	—	—	—	5–10	—	—	—	Mn 0·2–0·6
BS—Seewasser I (Corr. Res.)	Bal.	—	—	—	—	7·5	—	—	—	Si 0·2 : Mn 0·2–0·6
,, ,, II ,, ,,	Bal.	—	—	—	—	9·5	—	—	—	Si 0·2 : Mn 0·6

Description of Alloy.	Aluminium.	Chromium.	Copper.	Iron.	Lead.	Magnesium.	Nickel.	Tin.	Zinc.	Miscellaneous.
B.T.G. Alloy (Stainless & Heat Res.)	—	10	—	26	—	—	60	—	—	W 4
,, ,, ,, ,,	—	12	—	Bal.	—	—	60	—	—	W 1–4 : C 0·5 : Mn 2·0
,, ,, (Turbine Blading)	—	12	—	28	—	—	60	—	—	—
,, ,, (Midvale) ...	—	10–11	—	Bal.	—	—	60–62	—	—	W 2–2·5 : C 0·3–0·35 : Mn 1·2–1·5
Babbitt Metal—Generic Term for Tin-Base Bearing Alloys (sometimes Lead-Base)										
,, ,, Hard ...	—	—	5·5	—	—	—	—	83·5	—	Sb 11
,, ,, ,, ...	—	—	8·4	—	—	—	—	83·3	—	Sb 8·3
,, ,, Marine ...	—	—	—	—	72	—	—	21	—	Sb 7
,, ,, Original ...	—	—	1·8	—	—	—	—	89·3	—	Sb 8·9
,, ,, Usual Range	—	—	3–10	—	—	—	—	80–90	—	Sb 5–15
Bahnmetall (Bearing Alloy) ...	—	—	—	—	98·65	—	—	—	—	Na 0·6 : Ca 0·7 Li 0·04
Bahnmetall	0·20	—	—	—	98·47	—	—	—	—	Na 0·57 : Ca 0·72 : Si 0·04
Baily's Metal	—	—	82·1	—	—	—	—	12·8	5·1	—
Barberite (Cast)	—	—	88·5	—	—	—	5·0	5·0	—	Si 1·5
,, ,, ...	—	—	88·1	0·4	—	—	5·3	4·3	—	Si 1·6
Bario (Hard)	—	30	—	—	—	—	—	—	—	Mn 10 : W 25 : Co 30 : Ti 5
,, (Soft)	—	20	—	—	—	—	—	—	—	W 20 : Co 60
Baros	—	10	—	—	—	—	90	—	—	—
Barronia (Cast & Drawn—Corr. Res.)	—	—	82–85	0·2–1·2	—	—	—	3·2–4·5	Bal.	—
,, ,, ,, ,,	—	—	83	—	0·5	—	—	4·0	Bal.	—
Bath Metal	—	—	82·54	—	—	—	—	—	17·46	—
,, ,, ...	—	—	55	—	—	—	—	—	45	—
Batterium (Cast & Wrt.—Corr. Res.)	9	—	89	—	—	—	1	—	—	Other Metals 1
Battery Copper	—	—	94	—	—	—	—	—	6	—
Baudrin's Metal 1	—	—	72	—	—	—	16·6	2·5	7·1	Co 1·8
,, ,, 2	0·5	—	75	1·5	—	—	16	2·75	2·25	Co 2·0

PERCENTAGE COMPOSITION OF NON-FERROUS ALLOYS—(*continued*).

Description of Alloy.	Aluminium.	Chromium.	Copper.	Iron.	Lead.	Magnesium.	Nickel.	Tin.	Zinc.	Miscellaneous.
Bausch A5 Alloy (Cast, H.T.)	91·8	—	6·5	—	—	0·5	1·2	—	—	—
Bell Brass	—	—	64·25	—	—	—	—	0·75	35·00	—
Bell Metal	—	—	75–85	—	—	—	—	25–15	—	—
,, ,, ...	—	—	81–82	—	—	—	—	0·5	14	Si 4–5
,, ,, (" Best ")	—	—	78	—	—	—	—	22	—	—
,, ,, (" Big Ben ") ...	—	—	75·80	—	—	—	—	24·20	—	—
,, ,, (Chinese Gong) ...	—	—	80·43	—	—	—	—	19·57	—	—
,, ,, (Clock Bells) ...	—	—	75	—	—	—	—	25	—	—
,, ,, (Darmstadt) ...	—	—	73·94	0·19	2·11	—	2·00	21·67	—	—
,, ,, (Gong Metal) ...	—	—	71·5	—	—	—	—	26·4	2·1	—
,, ,, (House Bells) ...	—	—	80	—	—	—	—	20	—	—
,, ,, (House Bells) ...	—	—	84·5	—	—	—	—	15·42	—	Sb 0·1
,, ,, (House Bells) ...	—	—	78	—	—	—	—	22	—	—
,, ,, (Large Bells) ...	—	—	76	—	—	—	—	24	—	—
,, ,, (Loco Whistles) ...	—	—	80	—	—	—	—	18	2	—
,, ,, (Musical Bells) ...	—	—	84	—	—	—	—	16	—	—
,, ,, (Old Bell at Rouen)	—	—	71	—	1·2	—	—	26	1·8	—
,, ,, (Reichenhall, 300 years)	—	—	80	—	—	—	—	20	—	—
,, ,, (Reichenhall, 600 years)	—	—	76·2	—	—	—	—	23·8	—	—
,, ,, (Silvery Alloy) ...	—	—	40	—	—	—	—	60	—	—
,, ,, (Small Bells) ...	—	—	40	—	—	—	—	60	—	—
,, ,, (Small Bells) ...	—	—	—	—	—	—	—	87·5	—	Sb 12·5
,, ,, (Standard)... ...	—	—	78	—	—	—	—	22	—	—
,, ,, (White)	—	—	60	—	—	—	—	40	—	—
,, ,, (Ypres Cathedral)...	—	—	72·67	Nil	3·60	—	—	20·51	3·40	—
Belt Lace Metal	—	—	62	—	—	—	—	—	38	—
Bemal (Corr. Res. Cond. Tubes)	—	—	70·11	Tr.	0·32	—	—	Nil	29·43	—
Benedict Metal (Bullet Envelopes, Coinage) ...	—	—	85	—	—	—	15	—	—	—
Benedict Metal (Sheet, Tubes, etc.)	—	—	86–84	—	—	—	14–16	—	—	—
Benedict Metal	—	—	85–80	—	—	—	15–20	—	—	—
,, ,, ...	—	—	50	—	—	—	15	—	35	—

Description of Alloy.	Alu-minium.	Chrom-ium.	Copper.	Iron.	Lead.	Mag-nesium.	Nickel.	Tin.	Zinc.	Miscellaneous.
Benedict Plate	—	—	57	—	—	—	15	—	28	—
Benit (Wrought hot or cold)	96·91	—	2·00	—	—	0·45	—	—	—	W 0·27
Bergal (Rollg. & Forg. Al., H.T.)	94·1	—	4·0	—	—	0·8	—	—	—	Mn 0·7 : Si 0·4
Berthier's Alloy	—	—	68	—	—	—	32	—	—	—
Berychrome No. 1 (Hi. Ten. & El. Cond.)	—	0·5	Bal.	—	—	—	2	—	—	Be O·5 : Oth. Met. 0·5 (max.)
Beryllium-Aluminium Piston Alloy	30·46	0·06	0·12	0·69	—	—	—	—	—	Be 67·43 : Si 0·34 : Mn 0·90
Beryllium Bronze (Springs, &c.)	—	—	97·5	—	—	—	—	—	—	Be 2·5
Beryllium-Copper (Forg. & Rollg.)	—	—	Bal.	—	—	—	—	—	—	Be 4·3
Best Bronze	—	—	90	—	—	—	—	—	10	—
Biddery Metal	—	—	3·5–11·4	—	3·1–2·9	—	—	0–1·4	93·4–84·3	—
,, ,, ...	—	—	6·3	0·1	2·6	—	—	0·8	90·2	—
,, ,, (Buttons) ...	—	—	48·5	—	12·15	—	—	6·06	33·32	—
Bilgen-Bronze	—	—	97·32	0·52	0·24	—	—	1·89	—	—
Binding Brass	—	—	63·25	—	1·75	—	—	—	35·00	—
Birmabright (Cast & Wrt., Corr. Res:)	96·0	—	—	—	—	3·5	—	—	—	Mn 0·5
,, ,, ,, ,,	95·0	—	—	—	—	4·5	—	—	—	Mn 0·5
Birmabright (Castings—D.T.D. 165)	Bal.	—	—	0·60 (max.)	—	3·0–6·0	—	—	—	Mn 0·25–0·75 : Tot. Imp. (incl. Fe) 1·0 (max.)
Birmabright (Sheet, Tubes, etc.)	Bal.	—	—	1·50 (max.)	—	3·0–6·0	—	—	—	Si 0·50 (max.) : Mn 0·75 (max.) : Ti nil
Birmabright (Sheets and Strips) D.T.D. Specs.	Bal.	—	1·0 (max.)	1·50 (max.)	—	3·0–6·0	1·50 (max.)	—	—	Mn 0·75 (max.) : Si 0·5 (max.)
Birmabright II (Sheets & Strips —D.T.D. Specs.) ...	Bal.	—	—	0·7 (max.)	—	3·0 (max.)	—	—	—	Mn 1·5 (max.) : Si 0·7 (max.)

PERCENTAGE COMPOSITION OF NON-FERROUS ALLOYS—(*continued*).

Description of Alloy.	Aluminium.	Chromium.	Copper.	Iron.	Lead.	Magnesium.	Nickel.	Tin.	Zinc.	Miscellaneous.
Birmalite (Piston Alloy) ...	89·2	—	10·0	0·5	—	0·3	—	—	—	—
,, ,, ,, ...	Bal.	—	9–11	1·0 (max.)	—	0·1–0·5	—	—	—	Oth. met. Imp. 0·75 (max.)
Birmasil (Sand or Die-Cast, not pistons)	85·5	—	—	—	—	—	3·0	—	—	Si 11·5
,, ,, ,, ,, ,,	Bal.	—	—	0·60 (max.)	—	—	2·5–3·5	—	—	Si 10–12
,, ,, ,, ,, ,,	Bal.	—	—	—	—	—	3·5 (max.)	—	—	Si 8–13
Birmasil (Sand or Die-Cast) (D.T.D. 264)	Bal.	—	0·1 (max.)	0·6 (max.)	—	—	2·5–3·5	—	0·1 (max.)	Si 10–13 : Mn 0·5 (max.) : Ti 0·2 (max.)
Birmingham Platina	—	—	20·25	0·33	—	—	—	—	79·4	—
,, ,, ...	—	—	46·6	0·25	—	—	—	—	53·15	—
Birso Phosphor Bronze ...	—	—	Bal.	—	1·75	—	—	9	1·75	P 0·4
Bismuth Brass	—	—	52	—	5	—	30	—	12	Bi 1
,, ,, ...	—	—	47	—	—	—	30·9	1	21	Bi 0·1
Bismuth Bronze	1	—	53	—	—	—	10	15	20	Bi 1
,, ,, ...	—	—	45	—	—	—	32·5	—	21·5	Bi 1
,, ,, ...	—	—	25	—	—	—	24	—	—	Sb 50 : Bi 1
Bismuth Solder	—	—	—	—	25	—	—	50	—	Bi 25
,, ,, ...	—	—	—	—	27·5	—	—	45	—	Bi 27·5
,, ,, ...	—	—	—	—	40	—	—	20	—	Bi 40
,, ,, ...	—	—	—	—	33·3	—	—	33·3	—	Bi 33·3
Blanko-Blech	—	—	80	—	—	—	20	—	—	—
Blatt-Gold	—	—	77	—	—	—	—	—	23	—
Blatt-Silver	—	—	—	0·23	0·35	—	—	91·1	8·25	—
Block Brass	—	—	66·5	—	1·5	—	—	—	32·0	—
Block's Alloy	—	—	—	—	—	—	45	—	—	Co 54 : Si 0·9
Bobierre Metal	—	—	66	—	—	—	—	—	34	—
,, ,, ...	—	—	66·5	—	1·5	—	—	—	32	—
Bohnalite	88·5	—	10·0	1·2	—	0·3	—	—	—	—
,, ...	88·7	—	10·4	0·63	—	—	—	—	—	Si 0·20
Bondrat (Bearing Alloy) ...	—	—	1·94	—	75·1	—	—	10·6	—	Sb 10·3 : Cd 1·07 : As 0·86

Description of Alloy.	Aluminium.	Chromium.	Copper.	Iron.	Lead.	Magnesium.	Nickel.	Tin.	Zinc.	Miscellaneous.
Bondrat	—	—	1–2	—	Bal.	—	—	10–12	—	Sb 10–11 : Cd 1–1·5 : As 1–1·7
Bondur (Rollg. & Forg. Alloy)	94·6	—	4·0	—	—	0·4	—	—	—	Mn 0·6 : Si 0·4
,, ,, ,, ,,	Bal.	—	4·2	—	—	0·5–0·9	—	—	—	Mn 0·3–0·6
Borcher's Alloy	—	30	—	—	—	—	35	—	—	Co 35
,, ,, ...	—	30	—	—	—	—	34	—	—	Co 34 : Ag 2
,, ,, ...	—	30	—	—	—	—	35	—	—	Co 35 : Mo 0·5–5
,, ,, ...	—	65	—	35	—	—	—	—	—	—
,, ,, ...	—	30	—	—	—	—	65–67	—	—	Au 0·5–5 : Ag 0·25–5
Borcher's A Alloy	—	30	—	—	—	—	65–68	—	—	Au 0·5–5 : Ag 0·25–1·5
,, B Alloy	—	30	—	—	—	—	52–68	—	—	Ag 0·15–1·5 : Au Bal.
Boron—Aluminium—Copper	15–20	—	Bal.	—	—	—	—	—	—	B 15–20
Borotal (Brg. Al. for Unfav. Condns.)	Bal.	—	3	2	3	—	—	—	—	Gr C. 0·1
Borotal D 4	Bal.	—	3–4	2 (max.)	3 (max.)	—	—	—	—	Gr C. 0·1
,, D 5	Bal.	—	3–4	2 (max.)	3 (max.)	—	—	—	—	Gr. C. 0·1
,, FZ 17a	Bal.	—	—	2 (max.)	3 (max.)	—	—	—	3 (max.)	Gr C. 0·1
,, Z 7	Bal.	—	3–4	2 (max.)	3 (max.)	—	—	—	3 (max.)	Gr C. 0·1
Bourbonnes Alloy	48·8	—	0·25	0·33	—	—	—	50·48	—	—
Bow Wire	—	—	93	—	—	—	—	5	2	—
Brass :—										
Adm'ty Metal Pipe (A.S.T.M. B43)	—	—	70–73	0·07 (max.)	0·07 (max.)	—	—	0·90–1·20	Bal.	—
Bars, Extruded Fluted ...	—	—	58·47	0·14	1·30	—	—	0·20	39·93	As 0·08
Bars, Free-Machg. (B.S.S. 3B.13)	—	—	55 (min.)	—	1·75–3·0	—	—	—	Bal.	Tot. Imp. 0·75 (max.)
Bars, Hot Stamping (B.S.S. B.20)	—	—	57·5 (min.)	—	2·0 (max.)	—	—	—	Bal.	Tot. Imp. 0·75 (max.)
Bars, High Tensile (B.S.S. 3B.1)	—	—	54·0–62·0	—	—	—	—	—	Bal.	Metals other than Cu and Zn. 7·0 (max.)

PERCENTAGE COMPOSITION OF NON-FERROUS ALLOYS—(*continued*).

Description of Alloy.	Aluminium.	Chromium.	Copper.	Iron.	Lead.	Magnesium.	Nickel.	Tin.	Zinc.	Miscellaneous.
Brass—Contd.										
Bars, Rolled Hexagon ...	—	—	56·12	0·14	2·76	—	—	0·06	40·73	As 0·06
,, Round...	—	—	56·36	0·17	2·39	—	—	0·06	40·73	As 0·06
,, Suitable for Brazing...	—	—	78·0–82·0	—	1·00 (max.)	—	—	—	Bal.	Tot. Imp. 1·25 (max.)
Battery Plates	—	—	86	—	—	—	—	—	14	—
,, ,, ...	—	—	82	—	—	—	—	—	18	—
,, ,, ...	—	—	84	—	—	—	—	—	16	—
,, ,, ...	—	—	88·8	—	—	—	—	—	11·2	—
Brit. Chem. Stds. Brass B ...	1·62	—	58·80	0·94	0·78	—	1·01	1·76	33·9	Mn 1·03 : As 0·03 : Sb 0·05
Button Metal	—	—	56	—	—	—	—	—	44	—
Cartridge Brass (A.S.T.M. B19 & 20)	—	—	68–71	0·05 (max.)	0·07 (max.)	—	—	—	Bal.	Oth. Met. 0·15 (max.)
Castings	—	—	57	—	—	—	—	—	43	—
,, (Free Machining)...	—	—	54	—	2	—	—	—	44	—
,, ,, ,, ...	—	—	63·5	—	2·5	—	—	—	34	—
,, ,, ,, ...	—	—	60	—	2	—	—	—	38	—
,, to be brazed ...	—	—	85	—	—	—	—	—	15	—
,, ,, ,, ,, ...	—	—	80	—	—	—	—	—	20	—
,, ,, ,, ,, ...	—	—	83–86	0·15 (max.)	0·5 (max.)	—	—	—	Bal.	—
Deep-Drawing	—	—	70	—	—	—	—	—	30	—
Die Castings	—	—	57–59	—	—	—	—	0·5–1·5	40–42	—
,, ,, ...	0·5	—	57	—	—	—	—	2·5	40	—
,, ,, ...	—	—	63–65	—	—	—	—	—	33–35	Si 0·75–1·25
,, ,, ...	—	—	80–81·5	—	—	—	—	—	13·5–16	Si 3·75–4·25
Drawing or Spinning ...	—	—	66·66	—	—	—	—	—	33·33	—
English Memorial (14th Cent.)	—	—	66·64	0·08	—	—	—	Tr.	33·27	—
,, ,, (1456) ...	—	—	67·54	—	7·14	—	—	1·16	24·16	—
,, ,, (1470) ...	—	—	66·81	—	2·13	—	—	2·56	28·50	—
,, ,, (1504) ...	—	—	64·00	—	3·50	—	—	3·00	29·50	—
Forging Rod (A.S.T.M. B15)	—	—	58·5–61·5	0·15 (max.)	1·5–2·5	—	—	—	Bal.	Tot. Imp. (incl. Fe) 0·35 (max.)
,, ,, (S.A.E. No. 88)	—	—	60	—	2	—	—	—	38	—

Description of Alloy.	Alu-minium.	Chrom-ium.	Copper.	Iron.	Lead.	Mag-nesium.	Nickel.	Tin.	Zinc.	Miscellaneous.
Brass—Contd.										
Forgings	—	—	60	3·0 (max.)	3·0 (max.)	—	—	—	Bal.	—
Free-Cutting	—	—	88·5	—	1·5	—	—	—	10	—
,, ,, (Thin Walled Parts)	—	—	60–62	—	1·5–2·5	—	—	—	Bal.	—
,, ,, Yellow	—	—	50–60	—	1·75–3·0	—	—	—	Bal.	Tot. Imp. 0·7(max.)
Free-Machining	—	—	60	—	5	—	—	—	35	—
Free-Turning	—	—	57·15	0·13	3·21	—	0·06	0·21	39·23	Mn 0·01
Germ. Std. Ms 63 (Cold Rolling)...	—	—	63	—	—	—	—	—	37	—
Gong Metal	—	—	78	—	—	—	—	—	22	—
Hard	—	—	60	—	—	—	—	—	40	—
Hard, Leaded	—	—	61·79	0·16	1·50	—	—	0·01	36·54	Mn 0·007
Hardenable	1·6	—	72	—	—	—	6·4	—	20	—
Hardener for Brass	—	—	75	10	—	—	15	—	—	—
Hardware "Bronze" ...	—	—	88	—	—	—	—	—	12	—
,, ,, ...	—	—	88	—	1	—	—	1·5	9·5	—
High Brass Pipe (A.S.T.M. B43)	—	—	65·00–68·00	0·07 (max.)	0·80 (max.)	—	—	0·15 (max.)	Bal.	—
Kick Plates	—	—	84	—	1	—	—	—	15	—
Medals	—	—	84	—	—	—	—	—	16	—
Non-Ferr. Insect Screen Cloth	—	—	90	—	—	—	—	—	10	—
"Non-Tarnishable" ...	—	—	63·6	—	2	—	—	3·25	31	—
Pin Wire	—	—	61	—	—	—	—	—	39	—
Pipe—Hot Pierced	—	—	59–63	0·07 (max.)	0·5 (max.)	—	—	—	Bal.	—
,, Cold Process... ...	—	—	65–68	0·07 (max.)	0·8 (max.)	—	—	—	Bal.	—
Pipe and Valve Castings ...	—	—	72·50	—	6·50	—	—	1·75	19·25	—
Propellers	0·25	—	Bal.	1·2	—	—	5	—	35–40	Mn 1·7
Rivet Rods	—	—	59–63	0·06 (max.)	0·10 (max.)	—	—	0·5–1·0	Bal.	—
Rod and Strip (Ornamental)	—	—	68	—	3	—	—	—	29	—
,, ,, ,, ,,	3	—	68	—	—	—	—	—	29	—
Rod (Free-Cutting) ...	—	—	56–58	—	2–3	—	—	—	Bal.	—

PERCENTAGE COMPOSITION OF NON-FERROUS ALLOYS—(*continued*).

Description of Alloy.	Alu-minium.	Chrom-ium.	Copper.	Iron.	Lead.	Mag-nesium.	Nickel.	Tin.	Zinc.	Miscellaneous.
Brass—Contd.										
Rod (Free-Cutting A.S.T.M. B16)	—	—	60–63	0·15 (max.)	2·50–3·75	—	—	—	Bal.	Tot. Imp. (incl. Fe) 0·50 (max.)
,, Turning (S.A.E. 72) ...	—	—	62	—	3	—	—	—	35	—
Roman—										
Armlet	—	—	82·01	Tr.	0·80	—	0·10	1·79	15·30	Sb trace
Fibula	—	—	84·45	0·08	1·44	—	Tr.	1·72	12·31	—
Fibula (Mayence) ...	—	—	75·07	0·28	—	—	—	0·20	24·45	—
Needle (Ireland)	—	—	84·27	—	—	—	—	2·36	14·70	—
Ornaments (Silchester) ...	—	—	80·42	0·62	0·09	—	Nil	Nil	18·77	Ag trace : Co nil
Rosette (Silchester) ...	—	—	80·42	0·62	0·09	—	Nil	Nil	18·77	Ag trace : Co nil
Stud (Silchester)	—	—	82·31	0·45	0·08	—	Nil	Nil	17·11	Ag trace : Co nil
Screwed Glands (Cond.)—										
Land Purp.	—	—	70 (min.)	—	—	—	—	—	Bal.	Tot. Imp. 0·75 (max.)
,, ,, ,, ,,	—	—	70 (min.)	—	—	—	—	1	Bal.	Tot. Imp. 0·75 (max.)
,, ,, ,, ,,	—	—	70 (min.)	—	1·5–2·0	—	—	—	Bal.	Tot. Imp. 0·75 (max.)
,, ,, ,, ,,	—	—	60 (min.)	—	—	—	—	—	Bal.	Tot. Imp. 0·75 (max.)
,, ,, ,, ,,	—	—	60 (min.)	—	—	—	—	1	Bal.	Tot. Imp. 0·75 (max.)
,, ,, ,, ,,	—	—	60 (min.)	—	1·5–2·0	—	—	—	Bal.	Tot. Imp. 0·75 (max.)
Screws	—	—	78	—	1·5	—	—	4·5	16	—
Seamless Tubes (Fresh Water)	—	—	65–68	0·07 (max)	0·8 (max.)	—	—	—	Bal.	—
,, ,, (Salt Water)	—	—	79–86	0·05 (max.)	0·2 (max.)	—	—	—	Bal.	—
Sheet High	—	—	64·5–67·5	0·05 (max.)	0·3 (max.)	—	—	—	Bal.	Oth. Imp. 0·10 (max.)
Sheet, Tubes, etc.	—	—	67	—	—	—	—	—	33	—
Sheets—B.S.S. No. B19 ...	—	—	65 (min.)	0·15 (max.)	0·35 (max.)	—	—	—	Bal.	Tot. Imp. 0·75 (max.)

Description of Alloy.	Aluminium.	Chromium.	Copper.	Iron.	Lead.	Magnesium.	Nickel.	Tin.	Zinc.	Miscellaneous.
Brass—Contd.										
Sheets—B.S.S. Nos 3B5, 3B12 and 2B16	—	—	61 (min.)	—	0·60 (max.)	—	—	—	Bal.	Tot. Imp. 1·00 (max.)
Sheets, Strip and Foil—B.S.S. No. 265	—	—	61·5–64	—	0·3 (max.)	—	—	—	Bal.	Tot. Imp. (incl. Pb) 0·6 (max.)
Sheets, Strip and Foil—B.S.S. No. 266	—	—	64–67	0·10 (max.)	0·10 (max.)	—	—	—	Bal.	Tot. Imp. (incl. Pb and Fe) 0·40 (max.)
Sheets, Strip and Foil—B.S.S. No. 267	—	—	68–72	0·05 (max.)	0·07 (max.)	—	0·10 (max.)	0·015 (max.)	Bal.	Bi 0·004 (max.) : As 0·01 (max.) : Oth. Imp. (ea.) 0·005 (max.)
Stampings	—	—	58	—	1·5	—	—	—	40·5	—
Statuary :										
Statue at Munich (1600)...	—	—	76·90	0·17	2·68	—	0·10	0·64	19·69	—
Angel's Head, German (17th Cent.)	—	—	59·35	1·13	Tr.	—	0·39	1·30	37·63	Sb 0·20
Bas-Relief, German (*c.*1600)	—	—	65·34	1·79	2·09	—	0·10	5·04	25·64	—
Steam Turbine Return Boxes (L.P.)	—	—	66·76	0·39	0·60	—	—	0·26	32·02	—
,, ,, ,, ,,	—	—	56·62	0·71	0·24	—	—	1·63	40·84	—
,, ,, ,, ,,	—	—	64·52	—	1·73	—	—	1·03	32·72	—
,, ,, ,, ,,	—	—	64·35	—	1·72	—	—	1·01	32·92	—
Tubes and Wire	—	—	78	—	—	—	—	1	21	—
Tubes—Cond. Land Purp. (B.S.S. 378)	—	—	70 (min.)	—	—	—	—	—	Bal.	Tot. Imp. 0·75 (max.)
,, ,, ,, ,,	—	—	70 (min.)	—	—	—	—	1	Bal.	Tot. Imp. 0·75 (max.)
,, ,, ,, ,,	—	—	70 (min.)	—	1½–2	—	—	—	Bal.	Tot. Imp. 0·75 (max.)
Tubes—Honeycomb Radiators (B.S.S. 4T47)	—	—	70 (min.)	0·05 (max.)	0·07 (max.)	—	0·10 (max.)	0·015 (max.)	Bal.	As 0·01 (max.) : Bi 0·004 (max.)
Tubes—Condensers, Surface Heaters, etc.	—	—	70 (min.)	—	—	—	—	1 (min.)	Bal.	Tot. Imp. 0·3 (max.)

PERCENTAGE COMPOSITION OF NON-FERROUS ALLOYS—(*continued*).

Description of Alloy.	Aluminium.	Chromium.	Copper.	Iron.	Lead.	Magnesium.	Nickel.	Tin.	Zinc.	Miscellaneous.
Brass—Contd.										
Tubes, Seamless for Condensers	—	—	70 (min.)	0·06 (max.)	0·075 (max.)	—	—	—	Bal.	—
,, ,, ,, ,,	—	—	70	—	—	—	—	1	29	—
,, ,, ,, ,,	—	—	70 (min.)	0·06 (max.)	0·075 (max.)	—	—	0·90–1·20	Bal.	—
Tubes, Seamless (B.S.S. 5T8 and 2T18)	—	—	70 (min.)	—	—	—	—	1·25 (max.)	Bal.	Tot. Imp. 0·75 (max.)
Turbine Blades	—	—	94·83	0·32	—	—	—	—	4·85	—
White (Ornamental Castings)	—	—	45 (max.)	—	Nil	—	—	—	Bal.	—
Wire	—	—	70·29	—	0·28	—	—	0·17	29·26	—
Wire (Augsburg)	—	—	71·89	—	0·85	—	—	—	27·33	—
Wire (Common)	—	—	65·4	—	—	—	—	—	34·6	—
Brass—See also Manganese Bronze, Nickel Brass, etc.										
Brazing Solder (A.S.T.M. B64–28):										
50 : 50 Grade	—	—	50–53	0·10 (max.)	0·50 (max.)	—	—	—	Bal.	—
52 : 48 Grade	—	—	52–55	0·10 (max.)	0·50 (max.)	—	—	—	Bal.	—
Brazing Solder (B.S.S. No. 263):										
Grade AA (Slittings and Wire)	—	—	59–61	0·15 (max.)	0·50 (max.)	—	—	0·10 (max.)	Bal.	Sb 0·05 (max.): Bi 0·05 (max.): As 0·05 (max.): Tot. Imp. 0·75 (max.)
Grade A	—	—	53–55	0·15 (max.)	0·30 (max.)	—	—	0·05 (max.)	Bal.	Sb 0·05 (max.): Bi 0·05 (max.): As 0·05 (max.): Tot. Imp. 0·50 (max.)
Grade B	—	—	49–51	0·15 (max.)	0·30 (max.)	—	—	0·05 (max.)	Bal.	Sb 0·05 (max.): Bi 0·05 (max.): As 0·05 (max.): Tot. Imp. 0·50 (max.)

Description of Alloy.	Aluminium.	Chromium.	Copper.	Iron.	Lead.	Magnesium.	Nickel.	Tin.	Zinc.	Miscellaneous.
Brazing Solder for Acetylene Soldering	—	—	90	—	—	—	—	—	10	—
Brazing Solder for Brass ...	—	—	50	—	Nil	—	—	—	50	—
Brazing Solder for Brass (Lower M.Pt.)	—	—	33·33	—	—	—	—	—	66·66	—
Brazing Solder for Iron ...	—	—	66·66	—	Nil	—	—	—	33·33	—
Brazing Solder Hard, for Copper	—	—	98·6	—	—	—	—	—	—	Mn 0·8 : Si 0·6
Brazing Solder Hard	—	—	57	—	—	—	—	—	43	—
,, ,, ,, ...	—	—	50	—	—	—	—	—	50	—
,, ,, Strong ...	—	—	33·33	—	—	—	—	—	66·66	—
,, ,, White ...	—	—	40	—	—	—	—	—	60	—
,, ,, ,, (Very Soft)	—	—	57·44	—	—	—	—	14·58	27·98	—
,, ,, Yellow, Hard	—	—	55·30	—	0·30	—	—	1·30	43·10	—
Brazing Spelter	—	—	63·38	0·25	0·74	—	—	0·03	35·60	—
,, ,, ...	—	—	64·47	0·24	0·76	—	—	0·03	34·50	—
,, ,, (Coarse) ...	—	—	53·05	0·38	0·65	—	—	Nil	45·92	—
Bridgeport Bronze	—	—	60	—	—	—	—	0·75	Bal.	—
Bright Cap Gilding	—	—	89·75	—	0·38	—	—	—	9·87	—
Brightray (Elec. Res. Alloy to 1100° C.)	—	20	—	—	—	—	80	—	—	—
Bristol Alloy (Buttons) ...	—	—	58·71	—	2·75	—	—	5·5	33·03	—
,, ,, ,, ...	—	—	57·9	—	—	—	—	5·3	36·8	—
Bristol Metal	—	—	75	—	—	—	—	—	25	—
,, ,, ...	—	—	60	—	—	—	—	—	40	—
,, ,, ...	—	—	66·66	—	—	—	—	—	33·33	—
Britannia Metal (Tableware) ...	—	—	2·5	—	2·5	—	—	95	—	—
,, ,, ,, ...	—	—	1–3	—	—	—	—	Bal.	—	Sb 5–10
British Maxium 66 (Sheet) ...	5	—	—	—	—	94·25	—	—	—	Mn 0·75
Bronze :—										
Acid-Resisting	—	—	81·6	—	10·04	—	—	7·9	—	—
Ancient :										
Athenian Coin	—	—	89·4	—	—	—	—	9·9	—	—
Attic Coin...	—	—	88·5	—	1·1	—	—	10·0	—	—
Axe-Head	—	—	88·0	—	0·8	—	—	11·2	—	—

PERCENTAGE COMPOSITION OF NON-FERROUS ALLOYS—(*continued*).

Description of Alloy.	Aluminium.	Chromium.	Copper.	Iron.	Lead.	Magnesium.	Nickel.	Tin.	Zinc.	Miscellaneous.
Bronze—Contd.										
Ancient—Contd.										
Bronze Nails	—	—	95·1	—	—	—	—	4·9	—	—
Bronze (Troy, 1200 B.C.)	—	—	90·7	—	—	—	—	8·6	—	—
,, ,, ,,	—	—	93·8	—	—	—	—	5·7	—	—
Celtic Vessels	—	—	88·0	—	—	—	—	12·0	—	—
Coin (Alexander the Great)	—	—	86·7	—	—	—	—	13·2	—	—
,, (Julius Caesar) ...	—	—	79·1	—	12·8	—	—	8·0	—	—
,, (Ptolemy IX) ...	—	—	84·2	—	—	—	—	15·6	—	—
Egyptian Statuette ...	—	—	81·2	—	16·0	—	—	2·5	—	—
Egyptian Statuette, Osiris (300–200 B.C.) ...	—	—	76·8	—	11·7	—	—	11·2	—	—
Greek Statue, 5th Cent. B.C.	—	—	84·5	—	5·3	—	—	9·5	—	—
Greek Statue, 4th Cent. B.C.	—	—	89·0	—	4·9	—	—	6·1	—	—
Greek Vase	—	—	81·7	0·1	5·3	—	—	10·9	—	—
Roman As (500 B.C.) ...	—	—	69·7	0·5	21·8	—	—	7·2	—	—
,, Statue	—	—	78·3	0·1	10·2	—	—	10·8	—	—
,, Statuette ...	—	—	78·8	0·1	12·1	—	—	9·0	—	—
,, Sword-Blade ...	—	—	91·4	—	—	—	—	8·4	—	—
Sword-Blade	—	—	89·5	0·4	—	—	—	10·0	—	—
Automatic Brazing Rods ...	—	—	57–60	1·25	—	—	—	2·00	Bal.	Si 0·19 : Mn 0·75
Axle-Bearings	—	—	83	—	4	—	—	7	6	—
,, ,, ...	—	—	85	—	1·5	—	—	12	1·5	—
,, ,, ...	—	—	84	—	—	—	—	12	4	—
,, ,, (French) ...	—	—	78	—	—	—	—	20	2	—
,, ,, ,, ...	—	—	82	—	—	—	—	10	8	—
,, ,, (Lafond) ...	—	—	80	—	—	—	—	18	2	—
,, ,, (L. & Y. Ry.)	—	—	80	—	15	—	—	5	—	—
Backing for Journal Bearings	—	—	Bal.	—	15–22	—	—	5–7	2 (max.)	Oth. Imp. 1 (max.)
Bars for Carb. Needle Seatings	—	—	88–89	—	1·0 (max.)	—	—	1–2	Bal.	Tot. Imp. (incl. Pb) 1·25 (max.)
Bars (Hard-Rolled)... ...	—	—	Bal.	—	—	—	—	9·75–10·25	1·75–2·25	Tot. Imp. 0·25 (max.)

Description of Alloy.	Aluminium.	Chromium.	Copper.	Iron.	Lead.	Magnesium.	Nickel.	Tin.	Zinc.	Miscellaneous.
Bronze—Contd.										
Battery Plates	—	—	82	—	—	—	—	10	8	—
,, ,, ...	—	—	75	—	—	—	—	23	2	—
,, ,, ...	—	—	73·7	—	—	—	—	24·2	2·1	—
,, ,, ...	—	—	82	—	—	—	—	16	2	—
,, ,, ...	—	—	78·07	—	13·78	—	—	8·15	—	—
Bearings—Use with Acid Mine Waters	—	—	79·25	—	10	—	—	10	0·75	—
Bearings for Alternating Friction (Loco. Ecc. Straps, etc.)	—	—	84	—	—	—	—	14	2	—
Bearings for Coaling Winches	—	—	87·63	0·08	0·94	—	—	9·80	0·93	Sb 0·54 : As 0·06
Bearings for Heavy Duties...	—	—	86	—	—	—	—	14	—	—
Bearings for Heavy Pressure (A.S.T.M. B30) ...	—	—	80	—	10	—	—	10	—	—
Bearings for Light or Med. Press. (A.S.T.M. B30)...	—	—	70·5	—	21·5	—	—	6·5	1·5	—
Bearings for Rolling Mills ...	—	—	73	—	20	—	—	7	—	—
Bearings for Rotary Friction (Fr. Rys.)	—	—	82	—	—	—	—	16	2	—
Boiler Fittings, etc. ...	—	—	87	—	2	—	—	9	2	—
Boiler Mountings	—	—	82	—	5	—	—	5	8	—
Brit. Chem. Std. Bronze C.	—	—	86·84	0·06	0·41	—	0·09	9·80	2·55	P 0·05 : Sb 0·04 : As 0·05 : S 0·06
Button Metal	—	—	61·5	—	—	—	—	6·5	32·0	—
,, ,, ...	—	—	61·4	—	—	—	—	9·7	28·9	—
Car Brgs., Fr. North Ry. ...	—	—	82	—	—	—	—	18	—	—
Car Journal Bearings (A.S.T.M. B30) ...	—	—	71·5	—	18·0	—	—	5·5	5·0	—
Carriage Wheel Bearings ...	—	—	84	—	—	—	—	16	—	—
Castings, Gen. Purpose ...	—	—	88	—	—	—	—	10	2	—
,, ,, ,, ...	—	—	87	—	1	—	—	9	3	—
,, ,, ,, B.S.S. 383	—	—	Bal.	—	0·50 (max.)	—	0·20 (max.)	9·75–10·25	1·75–2·25	Oth. Imp. (excl. O) 0·15 (max.)
,, ,, ,, B.S.S. 2B2	—	—	Bal.	—	0·50 (max.)	—	—	9·75–10·25	1·75–2·25	Tot. Oth. Imp. 0·15 (max.)

PERCENTAGE COMPOSITION OF NON-FERROUS ALLOYS—(*continued*).

Description of Alloy.	Alu-minium.	Chrom-ium.	Copper.	Iron.	Lead.	Mag-nesium.	Nickel.	Tin.	Zinc.	Miscellaneous.
Bronze—Contd.										
Castings, Gen. Machy.—Reichsbahn	—	—	82	—	1	—	—	10	7	—
,, ,, ,, ,,	—	—	85	—	2	—	—	5	8	—
Castings, Gen. Work ...	—	—	88	—	2	—	—	8	2	—
,, ,, ,, ...	—	—	87	—	1	—	—	10	2	—
,, ,, ,, ...	—	—	88	—	—	—	—	6	6	—
,, ,, ,, ...	—	—	87	—	—	—	—	8	5	—
,, ,, ,, ...	—	—	86	—	—	—	—	9	5	—
,, ,, ,, ...	—	—	85	—	—	—	—	5	10	—
Castings for Loco. Wearing Parts—A.S.T.M. B66 :										
Hard Bronze (Sand or Die)	—	—	Bal.	—	10–15	—	—	7–10	1·25 (max.)	Oth. Imp. 0·75 (max.)
Medium Bronze (Sand or Die)	—	—	Bal.	—	14–22	—	—	6–8	1·25 (max.)	Oth. Imp. 0·75 (max.)
Soft Bronze (Gen. Die) ...	—	—	Bal.	—	23–27	—	—	4–6	0·75 (max.)	Oth. Imp. 0·75 (max.)
Coinage Alloy	—	—	95	—	—	—	—	4	1	—
,, ,, ...	—	—	95	—	—	—	—	3	2	—
Conn. Rod Small-End Brgs.	—	—	84·2	—	—	—	—	14·5	1·3	—
Daimler Motor Bus Brgs. ...	—	—	76	—	1	—	—	3	20	—
Dense Alloy for High Pressures	—	—	83	—	—	—	1	6·5	8·5	P Cu 1
Dynamo Bearings	—	—	86	—	4	—	—	10	—	—
Eccentric Ring	—	—	84	—	—	—	—	14	2	—
English Penny	—	—	95·5	—	—	—	—	3·0	1·5	—
Gearwheels	—	—	91·3	—	—	—	—	8·7	—	—
,, ...	—	—	85	—	2	—	—	10	3	—
,, ...	—	—	85	—	—	—	—	13	2	—
Gen. Purp. Strong Hard Bronze	—	—	85	—	2	—	—	8	5	—
Glands and their Bushes ...	—	—	85·3	—	—	—	—	12·0	2·7	—
Graphited Brg. Alloy ...	—	—	70·18	0·22	9·00	—	—	13·72	1·45	P 0·055 : Gr. C. 5·35
Hard Alloy for Small Bushes	—	—	79·25	—	10	—	—	10	0·75	—
Heavy Duty Bearings ...	—	—	77	—	15	—	—	8	—	—

Description of Alloy.	Aluminium.	Chromium.	Copper.	Iron.	Lead.	Magnesium.	Nickel.	Tin.	Zinc.	Miscellaneous.
Bronze—Contd.										
Heavy Duty Bearings ...	—	—	83	—	0·5	—	—	15	1·5	—
,, ,, ,, ...	—	—	85	—	2	—	—	10	3	—
High Temp. Bronze ...	—	—	89·7	—	1·3	—	—	2·7	6·3	—
Hydraulic	—	—	87·5	—	—	—	—	12·5	—	—
,, ...	—	—	83·05	—	0·10	—	—	10·81	6·00	—
,, ...	—	—	86	—	—	—	—	12	2	—
,, ...	—	—	78	—	—	—	—	12	10	—
,, ...	—	—	82	—	3	—	—	8	5	Mn 2
,, ...	—	—	83·5	—	3	—	—	8	5	Mn 0·5
Hydraulic Pumps and Rams	—	—	87	—	—	—	—	13	—	—
Injector Metal (L. & Y. Ry.)	—	—	84	—	2·5	—	—	8·5	5	—
Loco. Bearings	—	—	86	—	—	—	—	14	—	—
,, Bushings	—	—	87	—	2	—	—	9	2	—
,, Ecc. Straps	—	—	85·25	—	—	—	—	12·75	2	—
,, Engine Castings ...	—	—	73	—	16·5	—	—	9	1·5	—
,, Piston	—	—	88·5	—	—	—	—	2·5	9·0	—
Malleable	—	—	98·04	—	—	—	—	1·96	—	—
Medals	—	—	97	—	—	—	—	1	2	—
,, ...	—	—	92	—	—	—	—	8	—	—
Monumental (*see also* Statuary Bronze)...	—	—	62–91·4	—	0·1–9	—	—	1·7–17·6	0·5–24·64	—
Oil Boxes, etc.	—	—	80	—	2	—	—	3	15	—
Pipe and Valve Castings ...	—	—	83	—	1·50	—	—	11·50	4·00	—
,, ,, ,, ,, ...	—	—	82	—	5·75	—	—	7·50	4·75	—
Pipe Flanges	—	—	91	—	—	—	—	5	4	—
Piston Packing Ring ...	—	—	87·2	—	0·3	—	—	11·2	1·3	P nil
Piston Ring Alloy	—	—	84	—	4·3	—	—	2·9	8·3	—
Piston Rings	—	—	89	—	—	—	—	2	9	—
Pressure-Resistant Castgs....	—	—	87·25	—	—	—	0·75	9	3	—
Pump Liners, etc.	—	—	85	—	5	—	—	8	2	—
Slide Valves (Loco.) ...	—	—	80	—	5	—	—	15	—	P tr
,, ,, (L.M.S. Ry.) ...	—	—	85	—	—	—	—	15	—	—
Slide and Regulator Valves	—	—	85·9	—	—	—	—	13·4	0·7	—
Slide Valves	—	—	88·5	—	—	—	—	2·5	9·0	—
Small Brgs. (Automobiles, etc.)	—	—	85	—	9	—	—	5	1	—

PERCENTAGE COMPOSITION OF NON-FERROUS ALLOYS—(*continued*).

Description of Alloy.	Aluminium.	Chromium.	Copper.	Iron.	Lead.	Magnesium.	Nickel.	Tin.	Zinc.	Miscellaneous.
Bronze—Contd.										
Statuary Bronze:										
Augsburg	—	—	94·74	—	6·24	—	0·71	1·64	0·54	—
,, ...	—	—	89·43	—	1·05	—	0·19	8·17	—	P 0·34
Bacchus, Potsdam ...	—	—	89·34	—	1·21	—	—	7·5	1·63	P 0·18
Bavaria, Munich	—	—	91·55	—	1·3	—	—	1·77	5·5	—
Column of July, Paris ...	—	—	91·4	—	1·4	—	—	1·6	5·6	—
Column Vendôme ...	—	—	89·2	—	0·1	—	—	10·2	0·5	—
Fredk. the Great, Berlin ...	—	—	88·3	—	0·7	—	—	1·4	9·5	—
Germanicus, Potsdam (1820)	—	—	89·78	—	1·33	—	0·27	6·16	2·35	—
Grösser Kurfurst, Berlin (1703)	—	—	89·09	—	2·62	—	—	5·82	1·64	P 0·13
Henry IV, Paris	—	—	89·62	—	0·48	—	—	5·7	4·2	—
Louis XIV, Paris (1699) ...	—	—	91·4	—	1·37	—	—	1·7	5·53	—
Mars and Venus, Munich ...	—	—	94·12	—	0·67	—	0·48	4·77	0·3	—
Melanchton, Wittenberg ...	—	—	89·55	—	—	—	—	2·99	7·46	—
Munich	—	—	92·88	—	2·31	—	—	4·18	0·44	P 0·15
,, ...	—	—	77·03	—	2·29	—	0·43	0·91	19·12	P 0·12
Napoleon I, Paris ...	—	—	75	—	2	—	—	3	20	—
Shepherd, Potsdam ...	—	—	88·68	—	0·77	—	—	9·2	1·28	—
Steam Fittings	—	—	88	—	2	—	—	8	2	—
Steam or Valve Alloy (Sand Cast)	—	—	85	—	—	—	—	9	6	—
,, ,, ,, ,,	—	—	86·5 (min.)	0·25 (max.)	1·5–2·0	—	1·00 (max.)	5·5–6·5	2·0–5·0	P 0·05 (max.)
,, ,, ,, ,,	—	—	88	—	—	—	—	8	4	—
,, ,, ,, ,,	—	—	88	—	1·5	—	—	6·5	4	—
Strip	—	—	93	—	—	—	—	4	3	—
Stuffing-Box Alloy (French)	—	—	88·2	—	0·1	—	—	11·7	—	—
Turbine Baffles	—	—	66	—	25	—	—	9	—	—
Valve Seats	—	—	90·3	—	—	—	—	9·7	—	—
,, ,, ...	—	—	84·3	—	—	—	—	9·9	5·8	—
Valves	—	—	89	—	3	—	—	5	3	—
,, ...	—	—	83	—	6	—	—	4	7	—
Valves and Fittings (Steam, Gas, etc.)	—	—	89	—	2	—	—	6	3	—

Description of Alloy.	Aluminium.	Chromium.	Copper.	Iron.	Lead.	Magnesium.	Nickel.	Tin.	Zinc.	Miscellaneous.
Bronze—Contd.										
Wagon Bearings (Brit. Rys.)	—	—	84–88	—	—	—	—	10–12	2–4	—
Weights	—	—	90	—	—	—	—	8	2	—
Whistles	—	—	80	—	—	—	—	18	2	—
,, ...	—	—	81	—	—	—	—	17	2	—
,, ...	—	—	80	—	—	—	—	18	—	Sb 2
(*See also* Bell Metal, Gunmetal, Nickel Bronze, Phosphor Bronze, etc.)										
Broternal (Non-Corr. Tubes, etc.)	7	—	91	—	—	—	—	—	—	Mn 2
Brush Wire Metal	—	—	64·25	—	—	—	—	0·75	35	—
Buckeye Bronze	4·3	—	0·6	—	15·6	—	—	41·6	37·8	—
Buckle Brass	—	—	65	—	—	—	—	—	35	—
Bull Alloy	—	—	—	0·6	80·9	—	—	—	—	Sb 18·3
Bull's Manganese Bronze (Propellers)	0·5	—	58·6	0·8	—	—	0·2	0·6	38·8	Mn 0·5
Bull's Metal	—	—	56·50	1·20	Nil	—	—	0·80	41·20	—
Bullet Brass	—	—	90	—	1	—	—	—	9	—
Burr Brass	—	—	62	—	—	—	—	—	38	—
Burr Metal	—	—	90	—	—	—	—	—	10	—
Butt Brass	—	—	65·5	—	1	—	—	—	33·5	—
,, ,, ...	—	—	63·5	—	1	—	—	—	35·5	—
Button Brass	—	—	89·5	—	—	—	—	0·5	10	—
Button Metal	—	—	43	—	—	—	—	—	57	—
,, ,, White	—	—	20	—	—	—	—	—	80	—
,, ,, ,, ...	—	—	19·65	—	—	—	—	—	80·35	—
C–Alloy (Cast, Hot- and Cold-Worked, H.T.)	3·5–5·0	—	Bal.	—	—	—	2·7–3·3	—	—	Si 0·7–0·9
CA Alloy (Corr. Res. Wires, Springs, etc.)	—	—	Bal.	—	—	—	2–5	—	—	Si 0·4–1·5
,, ,, ,, ,,	4·75	—	Bal.	—	—	—	3·5	—	—	Si 1·0
CA Alloy No. 1	4·0	—	Bal.	—	—	—	3·2	—	—	Si 0·8
Cadmium-Base Brg. Alloy ...	—	—	3·1	—	—	0·2	—	—	—	Cd 96·7

PERCENTAGE COMPOSITION OF NON-FERROUS ALLOYS—(*continued*).

Description of Alloy.	Alu-minium.	Chrom-ium.	Copper.	Iron.	Lead.	Mag-nesium.	Nickel.	Tin.	Zinc.	Miscellaneous.
Cadmium-Base Brg. Alloy (Australian)	—	—	1·5	—	—	1·0	—	—	—	Cd Bal.
Cadmium-Base Brg. Alloy (American)	—	—	0·25–1·0	—	—	—	—	—	0·25 (max.)	Cd 95 : Ag 0·5–5·0
,, ,, ,, ,,	—	—	—	—	—	—	0·25–1·0	—	0·25 (max.)	Cd 95 : Ag 0·5–5·0
Cadmium Coating for Copper	—	—	—	—	—	—	—	25	—	Cd 75
Cadmium Coating for Iron and Steel	—	—	—	—	—	—	—	—	17	Cd 83
Cadmium-Nickel NS 5 (Brg. Alloy)	—	—	—	—	—	—	1·3	—	—	Cd Bal.
Caedit (Carbide Cutting Tools)	—	30	—	—	—	—	10	—	—	W 16 : C 3 : Co 38 : Mo 4
,, ,, ,, ,,	—	33	—	2	—	—	—	—	—	W 15 : C 3 : Co 45
Calcium Silicide (Electro-thermic-standard)	—	—	—	—	—	—	—	—	—	Si 65–70 : Ca 25–30 : C traces
Calido (Resistance Alloy) ...	—	11	—	24	—	—	65	—	—	—
,, ,, ,, ...	—	8	—	25	—	—	64	—	—	Mn 3
Calido Brand Brass	—	—	69·93	0·12	Nil	—	—	Nil	29·94	—
Calido Elalco (Resistance Alloy)	—	16	—	24	—	—	60	—	—	—
Calite (Heat-Resisting) ...	4·1	5·5	—	50	—	—	40	—	—	—
,, ,, ,, ...	10	5	—	50	—	—	35	—	—	—
,, ,, ,, ...	4	27	—	48	—	—	20	—	—	C 1·8
,, ,, ,, ...	3·7	27·2	—	47·8	—	—	19·9	—	—	Si 0·4 : C 1·8
Calloy (Deoxidiser, as for Steel)	Bal.	—	—	—	—	—	—	—	—	Ca 8–12
,, ,, ,, ,, ,,	Bal.	—	—	—	—	—	—	—	—	Ca 24–26
Calomic (Heating and Resistance Alloy)	—	12	—	23	—	—	65	—	—	—
,, ,, ,, ,,	—	15	—	20	—	—	65	—	—	—
Calorite (Heat Resisting) ...	—	12	—	15	—	—	65	—	—	Mn 8
,, ,, ,, ...	—	12	—	23	—	—	65	—	—	—
Calsun Bronze (Cable Alloy) ...	2·5	—	Bal.	—	—	—	—	1·75	—	—
Camelia Bronze	—	—	70·2	0·5	14·7	—	—	4·2	10·2	—

Description of Alloy.	Aluminium.	Chromium.	Copper.	Iron.	Lead.	Magnesium.	Nickel.	Tin.	Zinc.	Miscellaneous.
Can (Bearing Alloy)	—	—	1·35	—	94·9	—	—	—	—	Sr 1·0 : Ba 1·0 : Ca 1·75 : Na Tr
Canzler Wire (Welding Rod for Copper)	—	—	98·8	Nil	Nil	—	—	Nil	—	Sb Nil : Ag 1·0 : P 0·2 : As Nil S Nil
Cap Gilding	—	—	90	—	—	—	—	—	10	—
Capsule Metal	—	—	—	—	92	—	—	8	—	—
Carboloy (Cemented Carbide Cuttg. Tool)	—	—	—	—	—	—	—	—	—	Co to 20, plus tungsten carbide
Carbon Bronze...	—	—	75·4	—	14·5	—	—	9·7	—	—
Carobronze (Bushes—Highly Stressed)	—	—	91·7	—	—	—	—	8·0	—	P 0·3
Carobronze (Solid-Drawn Tube)	—	—	91·60	—	—	—	—	8·50	—	P 0·195
,, (D.T.D. 265A) ...	—	—	Bal.	—	—	—	—	7·5–9·0	—	P 0·1–0·4 : Tot. Imp. 0·2 (max.)
,, ...	—	—	91·2	—	—	—	—	8·5	—	P 0·3
,, ...	—	—	91·76	Min. tr.	—	—	Nil	8·12	Nil	P 0·144
Cartridge Brass	—	—	70	—	—	—	—	—	30	—
,, ,, (Limits) ...	—	—	68–72	0·10 (max.)	0·05 (max.)	—	—	—	Bal.	Bi 0·006 (max.) : Oth. Imp. traces only
,, ,, (Typical) ...	—	—	69·20	0·02	0·02	—	—	—	30·76	—
,, ,, ...	—	—	68	—	—	—	—	—	32	—
,, ,, ...	—	—	66·67	—	—	—	—	—	33·33	—
Cartridge Gilding	—	—	93	—	—	—	—	—	7	—
Cataract Metal...	—	—	54·5	1·6	5·4	—	19·2	0·6	18·5	Mn 0·1
Cazin (Solder for Cable Connections)	—	—	—	—	—	—	—	—	17·4	Cd 82·6
Cekas (Thermocouples) ...	—	11·2	—	Bal.	—	—	59·7	—	—	Mn 2·0
Celsit—*as* Stellite	—	—	—	—	—	—	—	—	—	—
Central (Piston Alloy—H.T.) ...	80·4	—	2·5	—	—	1·2	2·5	—	—	Si 12·0 : Mn 1·2 : Ti 0·2
Central A	Bal.	—	2·5	—	—	—	2·5	—	—	Si 12·0 : Mn 1·25 : Ti 0·2

PERCENTAGE COMPOSITION OF NON-FERROUS ALLOYS—(*continued*).

Description of Alloy.	Aluminium.	Chromium.	Copper.	Iron.	Lead.	Magnesium.	Nickel.	Tin.	Zinc.	Miscellaneous.
Ceralumin B (Sand or Die C — Not pistons)	Bal.	—	1–1·75	0·3–1·0	—	0·05–0·2	1–1·75	—	—	Si 1·5–2·5 : Ce 0·05–0·2
,, ,, ,, ,,	Bal.	—	1·3	1·0	—	0·1	1·3	—	—	Si 2·2 : Cb 0·1
,, ,, ,, ,,	94·4	—	1·5	0·8	—	0·1	1·4	—	—	Si 1·6 : Ce 0·2
,, ,, (D.T.D. 287) ...	Bal.	0·05–0·3	1·0–2·0	0·25–1·3	—	0·05–0·2	1·0–1·75	—	—	Si 0·75–2·5 : Ce 0·05–0·3 : Cb 0·05–0·3
Ceralumin C (Sand or Die C., High Duty)	Bal.	—	2·5	1·2	—	0·8	1·5	—	—	Si 1·2 : Cb 0·15
Ceralumin C (Sand or Die-Cast, High Duty)	Bal.	—	2·5	1·2	—	0·8	1·5	—	—	Si 1·2 : Ce 0·15
Ceralumin C (Pistons, Cyl. Heads, etc.)	92·7	—	2·5	1·2	—	0·7	1·5	—	—	Si 1·2 : Ce 0·2
Ceralumin C (Pistons, etc.— D.T.D. 255)	Bal.	—	2·0–3·0	1·0–1·4	—	0·5–1·0	1·0–2·0	—	—	Si 1·0–1·4 : Ce 0·05–0·20
Ceralumin D (Sand or Chill-Cast, H.T.)	Bal.	—	2·5	1·2	—	0·8	1·5	—	—	Si 1·2 : Cb 0·15
,, ,, ,, ,,	Bal.	—	2·5	1·2	—	0·8	1·5	—	—	Si 1·2 : Ce 0·15
Ceralumin D (Sand or Die C., not Pistons)	Bal.	—	2·0–3·0	1·0–1·4	—	0·5–1·0	1·0–2·0	—	—	Si 1·0–1·4 : Ce 0·05–0·20
Ceralumin F. (Hi. Ten. Forgings, H.T.)	Bal.	—	2·5	1·2	—	0·8	1·5	—	—	Si 1·2 : Cb 0·15
,, ,, ,, ,,	Bal.	—	2·0–3·0	1·0–1·4	—	0·5–1·0	1·0–2·0	—	—	Si 1·0–1·4 : Ce 0·05–0·2
Ceralumin F (Hi. Ten. Forgings, D.T.D. 293)	Bal.	0·05–0·3	1·5–3·0	0·5–1·5	—	0·5–1·25	0·5–2·0	—	—	Si 0·3–1·5 : Ce 0·05–0·3
Ceralumin F (Ro'ling and Forg. Alloy, H.T.)	93·5	—	2·3	1·0	—	0·9	1·2	—	—	Si 0·9 : Ce 0·17
Cerrobase (Fus. Al., Mt. Pt. 255° F.)	—	—	—	—	48	—	—	—	—	Bi 52
Cerrobend (Filler for Tube Bending)	—	—	—	—	26·7	—	—	13·3	—	Bi 50 : Cd 10·0
Cerromatrix (Fus. Al., M. Pt. 248° F.)	—	—	—	—	28·5	—	—	14·5	—	Bi 48 : Sb 9·0
Cerrosafe (Fus. Al., M.Pt. 180° F.)	—	—	—	—	40	—	—	11·5	—	Bi 40 : Cd 8·5

Description of Alloy.	Aluminium.	Chromium.	Copper.	Iron.	Lead.	Magnesium.	Nickel.	Tin.	Zinc.	Miscellaneous.
Cetal	Bal.	—	3	—	—	—	—	—	10	Si 6·5
Chain Bronze (Sheet—Am. Brass Co.)	—	—	95	—	—	—	—	5	—	—
Chamet Bronze	—	—	62	—	—	—	—	—	38	—
,, ,, ...	—	—	60	—	—	—	—	0·75	39·25	—
,, ,, ...	—	—	60	—	0·75	—	—	0·75	38·5	—
Check Brass	—	—	62	—	—	—	—	—	38	—
China Silver	—	—	50–70	—	—	—	10–20	—	5–30	—
Chinese Art Metal	—	—	74	—	15	—	—	1	10	—
Chinese Bronze	—	—	78	—	—	—	—	22	—	—
Chrogo U42 (Dental Alloy) ...	—	1·0	45·0	—	—	—	14·0	—	—	Au 39·8 : Pt 0·2
Chroman B (Acid-Resisting) ...	—	15	—	20	—	—	64	—	—	Mn 1
Chroman Co (Acid-Resisting) ...	—	20	—	—	—	—	79	—	—	Mn 1
Chromax (Heat-Resisting) ...	—	15	—	50	—	—	35	—	—	—
Chromax Bronze (Strong Corr.-Res.)	3	3	66·7	—	—	—	15·2	—	12·1	—
Chromel A (Heat-Res., to 1090° C.)	—	20	—	—	—	—	80	—	—	—
Chromel B (Heat-Res., for lower temp.)	—	15	—	—	—	—	85	—	—	—
Chromel C (Heat-Res., for still lower temp.)	—	11	—	25	—	—	64	—	—	—
Chromel P (Thermocouple Element)	—	10	—	—	—	—	90	—	—	—
Chromet (Brgs. for Hard Shafts)	Bal.	—	—	—	—	—	—	—	—	Si 10
Chromium Bronze C.B.F. (D.T.D. 354)	—	0·5–2·0	Bal.	0·5–3·0	—	—	—	1·5–3·5	—	Mn 0·5 (max.) : Tot. Imp. 0·5 (max.)
Chromium-Nickel Alloys :										
Non-Mag. High-Res. Alloy...	—	70	—	—	—	—	30	—	—	—
Welding Rod	—	75	—	—	—	—	25	—	—	—
Chromium-Nickel-Molybdenum Alloy :										
Welding Rod	—	70	—	—	—	—	20	—	—	Mo 10
Chromium-Tungsten Alloys (Tools)	—	10–77	—	1–43	—	—	43–1	—	—	W 77–10 : C 0–3 : Co as addition

PERCENTAGE COMPOSITION OF NON-FERROUS ALLOYS—(*continued*).

Description of Alloy.	Aluminium.	Chromium.	Copper.	Iron.	Lead.	Magnesium.	Nickel.	Tin.	Zinc.	Miscellaneous.
Chronin (Thermocouples) ...	—	14·7	—	—	—	—	83·7	—	—	—
Chronite (Burners and Valves)	0·8	13·7	—	20·3	—	—	63·5	—	—	Mn 1 : Si 0·4
Chrysokalk	—	—	90·5	—	1·6	—	—	—	7·9	—
,, ...	—	—	58·7	—	1·1	—	—	—	40·2	—
Chrysorin	—	—	72	—	—	—	—	—	28	—
,, ...	—	—	66·7	—	—	—	—	—	33·3	—
,, ...	—	—	63·3	—	—	—	—	—	36·7	—
Cindal—Aluminium Alloys, melt	treated wi	th boron t	richloride	for soundn	ess and co	rrosion-res	istance			
Cindal—Cast and Wrt. (H.T.)	Bal.	0·1–0·5	—	—	—	0·1–30	—	—	0·1–15	—
Clamer's Alloy	—	—	—	Bal.	—	—	25–50	—	—	Co 5–25
Clark's Alloy	—	—	75	—	—	—	14	1·9	7·2	Co 1·9
Clichier Metal (Fusible) ...	—	—	—	—	32·5	—	—	48	—	Sb 10·5 : Bi 9
,, ,, ,, ...	—	—	—	—	5	—	—	80	—	Bi 15
,, ,, ,, ...	—	—	—	—	46	—	—	33	—	Cd 21
,, ,, ,, ...	—	—	—	—	50	—	—	36	—	Cd 14
Clinching Screw Wire	—	—	69	—	1·5	—	—	—	29·5	—
Clock Brass (Sheet)	—	—	61·5	—	1·5	—	—	—	37·0	—
,, ,, ,, ...	—	—	62·5	—	1·75	—	—	—	35·75	—
Cobalt-Base Alloys :										
Acid-Resisting	—	—	—	—	—	—	—	—	25	Co 65 : Mo 10
High-Speed Tools	—	15	—	—	—	—	—	—	—	W 25 : Co 55 : Mo 5
Pyrometric Standard ...	—	10–25	—	—	—	—	—	—	—	Mn 1–3 : W 0–5 : Co 90–70 : C 0·2–0·6
,, ,, ...	—	10–25	—	—	—	—	—	—	—	Mn 1–3 : Mo 0–5 : Co 90–70 : C 0·2–0·6
Surgical Knives	—	25	—	—	—	—	—	—	—	W 5–10 : Co Bal.
Cobalt Brass (Acid-Resisting)	—	—	52·5	—	—	—	—	—	25·5	Co 22
,, ,, ,, ,,	—	—	52·2	—	—	—	—	—	17·4	Co 30·4
Cobalt-Chromium-Tungsten Als:										
High-Speed Tools	—	15–40	—	—	—	—	—	—	—	Co 15–50 : W 15–35 : B 0·5–2·5 : C 0·75–2·5
Coe Bronze (Sheet—Amer. Brass Co.)	—	—	89·5	—	—	—	—	10·5	—	—
Collet Brass	—	—	61	—	2·5	—	—	—	36·5	—

Description of Alloy.	Alu-minium.	Chrom-ium.	Copper.	Iron.	Lead.	Mag-nesium.	Nickel.	Tin.	Zinc.	Miscellaneous.
Colorado Metal	—	—	57	—	—	—	25	—	18	—
Combarloy (T. Bolton & Sons, Ld.)	—	—	Bal.	—	—	—	—	—	—	Ag 0·1
Common Brass	—	—	70	—	—	—	—	—	30	—
Composition Metal (Gen. Purp. Castgs.)	Nil	—	84–86	0·25 (max.)	4–6	—	0·75 (max.)	4–6	4–6	Sb 0·25 (max.) : P 0·05 (max.) : S 0·05 (max.) : Tot. Oth. Imp. 0·15 (max.)
,, ,, ,, ,,	—	—	85	—	5	—	—	5	5	—
Constantan (Resistance Alloy)	—	—	54	—	—	—	46	—	—	—
,, ,, ,,	—	—	54	—	—	—	45	—	—	Mn 1
,, ,, ,,	—	—	54·15	0·4	—	—	43·9	—	—	Mn 1·34
,, ,, ,,	—	—	60	—	—	—	40	—	—	—
Constructal 2 (Rollg. and Forg. Al., H.T.)	97·0	—	1·0	—	—	0·5	—	—	—	Mn 0·5 : Si 0·5
,, ,, ,, ,,	Bal.	—	1·2	0·26	—	0·92	—	—	—	Mn 0·5 : Si 0·56 : Ti 0·5
Constructal 8 (Rollg. and Forg. Al., H.T.)	91·0	—	—	—	—	1·4	—	—	6·0	Mn 1·3
,, ,, ,, ,,	Bal.	—	—	0·28	—	1·4	—	—	5·58	Mn 1·35 : Si 0·20
,, ,, ,, ,,	Bal.	—	—	—	—	1·25	—	—	5	Si 0·75
,, ,, ,, ,,	Bal.	—	—	—	—	2·5	—	—	7·0	Si 0·2 : Mn 1·0
Constructal 87 (Rollg. and Forg. Al., H.T.)	Bal.	—	—	0·28	—	1·62	—	—	6·87	Si 0·75 : Mn 1·24
Contracid (Wrt. Non.Corr. Alloy)	—	15	—	25	—	—	60	—	—	—
,, ,, ,, ,, ,,	—	15	—	13	—	—	65	—	—	Mo 7
,, ,, ,, ,, ,,	—	12·55	—	13·37	—	—	61·75	—	—	Mn 2·0 : Si 0·4 : Co 3·0 : W 3·41 : Mo 3·0 : C 0·05
,, (Turbine Blading) ...	—	12	—	28	—	—	60	—	—	—
Cook's Alloy	—	—	—	—	—	—	—	—	43	Sb 57
,, ,, ...	—	—	—	—	—	—	—	—	31·5	Sb 68·5
Cooper's Gold	—	—	66·6	—	—	—	—	—	4·15	Pt 29·17
,, ,, ...	—	—	81	—	—	—	—	—	—	Pt 19
,, ,, ...	—	—	81·25	—	—	—	—	—	—	Pt 18·75

PERCENTAGE COMPOSITION OF NON-FERROUS ALLOYS—(*continued*).

Description of Alloy.	Aluminium.	Chromium.	Copper.	Iron.	Lead.	Magnesium.	Nickel.	Tin.	Zinc.	Miscellaneous.
Cooperite	—	—	—	—	—	—	80	—	—	W 14 : Zr 6
Copel	—	—	55	—	—	—	45	—	—	—
Copernik (Const. Permeab'ty Al.)	—	—	—	50	—	—	50	—	—	—
Copper-Aluminium-Nickel Als. :										
Wire Alloy	5·32	—	89·84	—	—	—	4·84	—	—	—
,, ,, ...	4·94	—	92·68	—	—	—	2·38	—	—	—
,, ,, ...	5·10	—	93·96	—	—	—	0·94	—	—	—
Copper-Arsenic Alloys :										
Loco. Boiler Tubes	—	—	99·0 (min.)	—	—	—	—	—	—	As 0·35–0·55
Loco. Firebox Plates ...	—	—	99·0 (min.)	—	—	—	—	—	—	As 0·35–0·55
,, ,, ,, ...	—	—	99·25 (min.)	—	—	—	—	—	—	As 0·25–0·45
Loco. Firebox Stays ...	—	—	99·3	—	0·07	—	0·05	—	—	As 0·48 : O 0·011
,, ,, ,, ...	—	—	98·94	0·05	0·09	—	0·05	—	—	As 0·87
,, ,, ,, ...	—	—	99·7	0·03	Tr.	—	0·01	—	—	As 0·20 : O Trace : P 0·04
,, ,, ,, ...	—	—	99·4	—	0·05	—	0·04	0·03	—	As 0·45 : O 0·007
,, ,, ,, ...	—	—	99·8	Tr.	Tr.	—	Tr.	—	—	As 0·12 : P 0·06
,, ,, ,, ...	—	—	99·9	0·01	0·03	—	—	—	—	As Trace : P 0·05
Loco. Staybolts and Rivets	—	—	99·25 (min.)	—	—	—	—	—	—	As 0·15–0·35
Copper-Base Acid-Resistg. Alloy	—	—	63	—	30	—	—	—	—	Sb 7
,, ,, ,, ,, ,,	—	—	66	—	30	—	—	—	—	Sb 4
,, ,, ,, ,, ,,	—	—	70	—	20	—	—	3	—	Sb 7
,, ,, ,, ,, ,,	—	—	85	—	5	—	—	10	—	—
,, ,, ,, ,, ,,	—	—	88	—	9	—	—	3	—	—
,, ,, ,, ,, ,,	—	—	86	—	9	—	—	5	—	—
,, ,, ,, ,, ,,	—	—	87	—	2	—	—	6	5	—
Copper-Boron (Scavenger for Bronze, etc.)	—	—	Bal.	—	—	—	—	—	—	B 15–20 : C Nil
Copper-Chromium Al. (Hardnr.)	—	10	Bal.	—	—	—	—	—	—	—
Copper-Chromium Nickel Alloys: Electrical Resistance ...	—	16·5	71	—	—	—	12·5	—	—	—

Description of Alloy.	Alu-minium.	Chrom-ium.	Copper.	Iron.	Lead.	Mag-nesium.	Nickel.	Tin.	Zinc.	Miscellaneous.
Copper-Gold-Silver Alloys :										
Pen Metal	—	—	50	—	—	—	—	—	—	Au 25 : Ag 25
Copper-Iron Alloys :										
Hardener	—	—	Bal.	10	—	—	—	—	—	—
Hardener	—	—	Bal.	20	—	—	—	—	—	—
Hardener	—	—	Bal.	30	—	—	—	—	—	—
Copper-Lead Alloys :										
Bearing Alloy	—	—	63	—	30	—	2	—	—	Mn 5
,, ,, ...	—	—	71	—	28	—	—	—	—	Ag 1
,, ,, ...	—	—	72	—	25	—	—	3	—	—
,, ,, ...	—	—	75	—	21	—	—	4	—	—
(*See also* Lead Bronze) ...										
Copper-Manganese Alloys :										
Firebox Stays	—	—	90·4	1·82	—	—	—	—	—	Mn 7·78
Hardener	—	—	Bal.	—	—	—	—	—	—	Mn 30
H.P. Turbine Nozzles ...	—	—	96·52	0·10	—	—	—	—	—	Mn 3·49
Tubes	—	—	96	—	—	—	—	—	—	Mn 4
(*See also* Cupro-Manganese)										
Copper-Manganese-Alumin. Als.:										
Electrical Resistances ...	4·2	—	84·2	Tr.	—	—	Tr.	—	—	Mn 11·5
Copper-Manganese-Iron Alloys :										
Resistance Alloy	—	—	86·5	1·8	—	—	—	—	—	Mn 11·7
,, ,, ...	—	—	84·32	1·90	—	—	—	—	—	Mn 13·45
,, ,, ...	—	—	85	3	—	—	—	—	—	Mn 12
,, ,, ...	—	—	86·8	1·3	—	—	—	—	—	Mn 11·1 : Si 0·6
Copper-Manganese-Nickel Als. :										
Jointing for Stainless Steels	—	—	10–60	—	—	—	10–50	—	—	Mn 30–70
,, ,, ,, ,,	—	—	50	—	—	—	10	—	—	Mn 40
Copper-Nickel Alloys :										
Bullet Casing, Coinage, etc.	—	—	85	—	—	—	15	—	—	—
,, ,, ,, ,,	—	—	85·16	0·23	—	—	14·4	—	—	Mn 0·11 : C 0·029
,, ,, ,, ,,	—	—	80	—	—	—	20	—	—	—
,, ,, ,, ,,	—	—	79–81	—	—	—	19–21	—	—	C 0·05 (max.) : S 0·04 (max.) : Tot. Imp. 0·75 (max.)

PERCENTAGE COMPOSITION OF NON-FERROUS ALLOYS—(*continued*).

Description of Alloy.	Aluminium.	Chromium.	Copper.	Iron.	Lead.	Magnesium.	Nickel.	Tin.	Zinc.	Miscellaneous.
Copper-Nickel Alloys:—Contd.										
Bullet Casing, Coinage, etc.	—	—	80·5–81·0	0·2	—	—	19–19·5	—	—	Mn 0·15 : C 0·03 : S 0·04
,, ,, ,, ,,	—	—	79·8	0·29	—	—	19·6	—	—	Mn 0·13 : C 0·048 : S 0·035
Coinage Alloy, Sheets, etc. ...	—	—	75	—	—	—	25	—	—	—
Condenser Tubes	—	—	70	—	—	—	30	—	—	—
,, ,, (Admty. Spec.)	—	—	Bal.	0·4–1·0	—	—	30 (min.)	—	—	Mn 0·5–1·5 : Mn plus Fe 2·0(max.)
Driving Bands, Sheet ...	—	—	95	—	—	—	5	—	—	—
Engineering Valves (Cast) ...	—	—	62	Tr.	12	—	12	2	—	Mn Tr : W 12
Firebox Stays	—	—	98·05	—	—	—	1·92	—	—	As Tr : P 0·09
Hardener	—	—	80	—	—	—	20	—	—	—
,, ...	—	—	50	—	—	—	50	—	—	—
High Strength Alloys ...	—	—	87–99	—	—	—	10–0·5	—	—	Fe plus Si 3–0·5
Loco. Stay Rods	—	—	90	—	—	—	10	—	—	—
Loco. Tubes...	—	—	97	—	—	—	3	—	—	—
"Most Corrosion-Resistant"	—	—	50	—	—	—	50	—	—	—
"Non-Corrodible"	—	—	60	—	—	—	40	—	—	—
Nor-Corr. Mould (Artif. Stones)	—	—	82	—	—	—	18	—	—	—
Ornamental Corr.-Res. ...	—	—	54	—	—	—	45	—	—	Mn 1
Radio Tubular Res. Unit ...	—	—	55	—	—	—	45	—	—	—
Resistance and Thermoelectric	—	—	59–61	—	—	—	39–41	—	—	Mn 1 (max.) : Oth. Imp. 0·5 (max.)
,, ,, ,,	—	—	60	—	—	—	40	—	—	—
Stainless	—	—	64	—	—	—	35	1	—	—
Thermocouple Elem. (Neg.)	—	—	80	—	—	—	20	—	—	—
,, ,, (Posit.)	—	—	87·7	—	—	—	12·3	—	—	—
Copper-Nickel-Aluminium Als.:										
Turbine Blading	2·54	—	82·07	Tr.	—	—	14·64	—	0·68	—
,, ,, ...	2·5	—	82·1	—	—	—	14·7	—	0·7	Si 0·04
Wire Alloy	5·21	—	87·48	—	—	—	7·31	—	—	—
Copper-Nickel-Antimony Alloys:										
Acid-Resisting	—	—	90–50	—	—	—	5·5–36·5	—	—	Sb 4·5–13·5

Description of Alloy.	Alu-minium.	Chrom-ium.	Copper.	Iron.	Lead.	Mag-nesium.	Nickel.	Tin.	Zinc.	Miscellaneous.
Copper-Nickel-Cadmium Alloys:										
Watch Alloy	—	—	50	—	—	—	47·2	—	—	Cd 2·8
Copper-Nickel-Chromium Alloys:										
Corr.-Res. Alloy	—	2·5	67·5	—	—	—	30·0	—	—	—
Copper-Nickel-Chromium-Iron Alloys:										
Cold-Rolling Non-Corr. ...	—	20 (max.)	Bal.	0·5–14·5	—	—	21–50	—	—	—
Copper-Nickel (Complex) Alloys:										
Hard Alloy	3·70	—	69·13	0·06	0·58	—	14·81	—	8·64	P 3·08
Ornamental Corr.-Res. ...	—	—	45	—	—	—	32·5	16	5·5	Bi 1
,, ,, ,, ...	—	—	45	—	1	—	32·5	16	5·5	—
Packing Metal	—	—	51·8	—	17	—	15	1·8	14·3	—
Turbine Stuffing Boxes ...	—	—	61·5	—	10	—	15·5	2	11	—
Valve Seats	—	1–5	Bal.	5	—	—	35	—	—	—
Copper-Nickel-Iron Alloys:										
Brazing Alloy (Stainless Steels)	—	—	85	5	—	—	10	—	—	—
Coin (2nd Cent. B.C.) ...	—	—	77·58	1·85	—	—	20·00	0·03	—	Co 0·54
Cold Rolling, etc.	—	—	Bal.	20·5–34·5	—	—	21–50	—	—	—
Core Matl. in Elect. App. ...	—	—	68	2	—	—	30	—	—	—
Magnet Alloy	—	—	60	20	—	—	20	—	—	—
Copper-Nickel-Iron-Chromium Alloys:										
Cold-Rollg., Stampg. or Wire-Drwg.	—	1/5 of Fe (max.)	25–45	Bal.	—	—	5–15	—	—	—
Copper-Nickel-Manganese Alloys:										
Brazing Als. (Stain. S.)—Range	—	—	10–60	—	—	—	10–50	—	—	Mn 10–70
,, ,, ,, ,, "Most Suitable"	—	—	50	—	—	—	40	—	—	Mn 10
Copper-Nickel-Silver-Zinc Alloys:										
Swiss Coinage (20 cent.) ...	—	—	50	—	—	—	25	—	10	Ag 15
,, ,, (10 cent.) ...	—	—	55	—	—	—	25	—	10	Ag 10
,, ,, (5 cent.) ...	—	—	60	—	—	—	25	—	10	Ag 5
Copper-Nickel-Tin Alloys:										
Hi. Strth. (U.S. Pat. 1816509)	—	—	Bal.	—	—	—	3·5–50	2·5–20	—	—
Copper-Nickel-Zinc Alloys: (*See* Nickel Silver)										

PERCENTAGE COMPOSITION OF NON-FERROUS ALLOYS—(*continued*).

Description of Alloy.	Aluminium.	Chromium.	Copper.	Iron.	Lead.	Magnesium.	Nickel.	Tin.	Zinc.	Miscellaneous.
Copper-Silicon Alloy (Hardener)	—	—	Bal.	—	—	—	—	—	—	Si 10
,, ,, ,, ,,	—	—	Bal.	—	—	—	—	—	—	Si 20
,, ,, ,, ,,	—	—	Bal.	—	—	—	—	—	—	Si 50
Copper-Silicon Alloys: (*See also* Cupro-Silicon and Silicon Bronze)										
Copper-Silicon-Nickel Alloys: Chemical Apparatus ...	—	—	Bal.	—	—	—	2·5	—	—	Si 6
Copper-Silumin (Cast) ...	Bal.	—	0·7–0·9	—	—	—	—	—	—	Si 11–13·5 : Mn 0·2–0·5
,, ,, ,, ...	Bal.	—	0·8	0·6	—	—	—	—	—	Si 13
Copper-Silver-Cadmium Alloys: Fusible Safety Plugs—										
M. Pt. 490–505° C. ...	—	—	7	—	—	—	—	—	—	Cd 81 : Ag 12
M. Pt. 535–550° C. ...	—	—	36·5	—	—	—	—	—	—	Cd 57 : Ag 6·5
M. Pt. 670° C.	—	—	20·5	—	—	—	—	—	—	Cd 39 : Ag 40·5
Copper-Silver-Tin Alloys: Contacts	—	—	81–83	—	—	—	—	4–2	—	Ag 15
Copper-Tantalum-Columbium (Hardener)	—	—	Bal.	—	—	—	—	—	—	Ta + Nb 30–35
Copper-Titanium (Hardener)...	—	—	90	—	—	—	—	—	—	Ti 10
Copper-Vanadium (Hardener)	—	—	Bal.	—	—	—	—	—	—	V 8–9
Cornish Bronze	—	—	77·8	—	12·6	—	—	9·6	—	P 0·8
Corrix Metal (Corr.-Res.) ...	10	—	86	4	—	—	—	—	—	—
,, ,, ,, ,, ...	8·70	—	88·25	3·05	—	—	—	—	—	—
Corrofestal (Rollg. & Forg.,H.T.)	98·0	—	—	—	—	0·9	—	—	—	Mn 0·6 : Si 0·5
Corronil (Strong Non-Corr.) ...	—	—	26	—	—	—	70	—	—	Mn 4
,, ,, ,, ,, ...	—	—	24·34	1·04	—	—	70·26	—	—	Mn 4·26 : Si 0·29
Corronium	—	—	80	—	—	—	—	5	15	—
Craig Gold	—	—	80	—	—	—	10	—	10	—
Cranal (French—as Alpax) ...	87	—	—	—	—	—	—	—	—	Si 13
Cronit (Resistance Alloy) ...	—	40	—	—	—	—	60	—	—	—
Cronite (Heat-Resisting) ...	—	15	—	16	—	—	68	—	—	Mn 1
,, ,, ,, ...	—	14	—	23	—	—	60	—	—	—
,, ,, ,, ...	—	20	—	12	—	—	68	—	—	—

Description of Alloy.	Alu-minium.	Chrom-ium.	Copper.	Iron.	Lead.	Mag-nesium.	Nickel.	Tin.	Zinc.	Miscellaneous.
Cronite (Heat-Resisting) ...	—	14·4	—	22·6	—	—	59·8	—	—	Mn 0·99 : Si 0·5 : C 0·66
,, ,, ,, ...	0·8	13·72	—	20·32	—	—	63·55	—	—	Mn 1·04 : Si 0·43 : S 0·19
Crotorite IV (Rolled—Temp. Res. Al.)	2·5–3·5	—	88–90	—	—	—	6·5–7·5	—	—	Mn 0·2–0·4
,, ,, ,, ,,	3·08	—	89·50	0·56	0·06	—	6·32	—	—	Mn 0·62
Crotorite V (Wrt. Corr. Res. Al.)	9·0–9·75	—	88–90	0·20–2·0	—	—	—	—	—	Mn 0·2–0·6
Cuber (Master Alloy)	—	—	Bal.	—	—	—	—	—	—	Be 12·5
Cufenium (Corr.-Res.) ...	—	—	72	6	—	—	22	—	—	—
,, ,, ,, ...	—	—	60	19·5	—	—	20·5	—	—	—
Cuivre Poli	—	—	70	—	—	—	—	—	30	—
Cupaloy (Hi. Ten. Hi. Cond. Al.)	—	0·45–0·55	Bal.	—	—	—	—	—	—	Ag 0·06–0·12
,, ,, ,, ,, ,, ,,	—	0·5–1·0	Bal.	—	—	—	—	—	—	Ag 0·06–0·12
Cupro-Manganese (Hardener)	—	—	70–90	—	—	—	—	—	—	Mn 30–10
,, ,, ,,	—	—	67	3	—	—	—	—	—	Mn 30
Cupro-Nickel :										
Usual (Bullet Casings, etc.)	—	—	80	—	—	—	20	—	—	—
,, (Range)	—	—	81–79	—	—	—	19–21	—	—	—
,, (Typical)	—	—	79·54	0·21	—	—	20·19	—	—	Mn 0·12 : Si 0·01
Cupro-Nickel A(Brit. Chem. Std.)	—	—	68·85	0·05	0·01 (max.)	0·027	30·08	—	—	Si 0·12 : Mn 0·89 : C 0·02 : S 0·01 : Co 0·01 (max.)
Cupro-Nickel : (*See also* Copper-Nickel Alloys)										
Cupro-Silicon (Deoxidiser) ...	—	—	65–50	—	—	—	—	—	—	Si 35–50
Cupron (Elec. Res. Wire) ...	—	—	55	—	—	—	45	—	—	—
Cupror	5·8	—	94·2	—	—	—	—	—	—	—
Cymbal Metal	—	—	78	—	—	—	—	—	22	—
D2 (Sheet, Extrusions, Tubes)	Bal.	—	—	0·70 (max.)	—	1·0–3·0	—	—	—	Si 0·70 (max.) : Mn 1·5 (max.) : Ti nil
Damar Bronze	—	—	77	—	12·5	—	—	10·5	—	—
Damascus Bronze	—	—	77	—	12·5	—	—	10·5	—	—
D'Arcet's Al. (Fus.—M.Pt.200°F)	—	—	—	—	25	—	—	25	—	Bi 50

PERCENTAGE COMPOSITION OF NON-FERROUS ALLOYS—(*continued*).

Description of Alloy.	Alu-minium.	Chrom-ium.	Copper.	Iron.	Lead.	Mag-nesium.	Nickel.	Tin.	Zinc.	Miscellaneous.
Davis Metal (Corr.-Res.) ...	—	—	67	2	—	—	29	—	—	Mn 1·5 : C plus Si 0·5
Dawson's Bronze (Brg. Alloy)	—	—	83·9	Tr.	0·10	—	—	15·9	Tr.	As 0·05 : P Nil : Sb Trace
Decobra	—	—	74·4	0·8	—	—	19	—	5·4	Mn 0·4
Delatot's Metal	—	—	80	—	—	—	—	—	18	Mn 2
Delta Brass IV E	—	—	58·27	0·13	0·15	—	2·20	0·06	39·05	Mn 0·14
Delta Bronze (Hi.Ten.Corr.-Res)	—	—	54–56	1	1–2	—	—	—	Bal.	Mn 1–3
Delta Metal (Hi.Ten. Corr.-Res.)	—	—	58·3	0·13	0·15	—	2·2	—	39·0	—
,, ,, ,, ,, ,, ,,	—	—	55·1	1·08	0·37	—	—	—	43·5	P 0·1
,, ,, (Castings) ...	—	—	55·8	1·28	1·82	—	—	—	40·07	Mn 0·96
,, ,, (Forgings) ...	—	—	55·8	1·30	0·80	—	—	—	40·1	Mn 1·80
,, ,, (Hot Pressings) ...	—	—	54·2	1·0	0·70	—	—	—	42·3	Mn 1·10
,, ,, (Rolling)	—	—	55·8	0·86	1·10	—	—	—	41·4	Mn 1·40
Delta No. 5 Bronze (Brg. Alloy)	—	—	81·10	—	7·4	—	—	10·5	0·1	Sb 0·76
Demo Bronze	—	—	61	—	33	—	1–2	4–6	—	—
Diamondite (Cem. Carbide Tools)	—	—	—	—	—	—	—	—	—	W 95·65 : C 3·91
Diaphragm Brass	—	—	95	—	—	—	—	3	2	—
Dick's Bearing Bronze ...	—	—	80	—	10	—	—	10	—	—
Dienett's Silver	—	—	51	—	9·5	—	6·4	1	32	—
Dilver (Resistance Al.—*See* Platinite)										
Dipping Brass	—	—	66·66	—	—	—	—	—	33·33	—
Dippit	—	—	0·05	—	94·5	—	—	5	—	—
Dirigold	9·1	—	88	—	—	—	1·1	1·7	—	—
,, ...	10	—	88	—	—	—	2	—	—	—
Doctor Metal	—	—	88	—	—	—	—	2·5	9·5	—
Donal (Rollg. and Forg. Al.)...	98·5	—	—	—	—	—	—	—	—	Mn 1·5
Door Plate Brass	—	—	65	—	—	—	—	—	35	—
,, ,, ,, ...	—	—	63	—	2	—	—	—	35	—
"Double" Bronze (Wire) ...	6·5	—	Bal.	—	—	—	—	—	—	Skin of pure Cu
Dowmetal A (Sand Cast—replaced by H)	8·5	—	—	—	—	Bal.	—	—	—	Mn 0·2
Dowmetal B (Pressings—replaced by O)	12	—	—	—	—	Bal.	—	—	—	Mn 0·1

Description of Alloy.	Aluminium.	Chromium.	Copper.	Iron.	Lead.	Magnesium.	Nickel.	Tin.	Zinc.	Miscellaneous.
Dowmetal E (Plate and Sheet—Superior to F)	6·0	—	—	—	—	Bal.	—	—	—	Mn 0·2
Dowmetal F (Plate and Sheet)	4·0	—	—	—	—	Bal.	—	—	—	Mn 0·3
Dowmetal G (Sand Cast—largely replaced by H) ...	10·0	—	—	—	—	Bal.	—	—	—	Mn 0·1
Dowmetal H (Sand Castings) ...	6·0	—	—	—	—	Bal.	—	—	3·0	Mn 0·2
Dowmetal J (Press Forgs., Ext. Bars, etc.)...	6·5	—	—	—	—	Bal.	—	—	0·7	Mn 0·2
Dowmetal J1 (As J, but more corr.-res.)	6·5	—	—	0·005 (max.)	—	Bal.	0·005 (max.)	—	0·7	Mn 0·2
Dowmetal K (Die Cast—largely replaced by R)	10·0	—	—	—	—	Bal.	—	—	—	Mn 0·1 : Si 0·5
Dowmetal L (Hammer Forgings)	2·5	—	—	—	—	Bal.	—	—	—	Mn 0·3 : Cd 3·5
Dowmetal M (Plate and Sheet)	—	—	—	—	—	Bal.	—	—	—	Mn 1·5
Dowmetal M1 (As M, but more corr.-res.)	—	—	—	0·005 (max.)	—	Bal.	0·005 (max.)	—	—	Mn 1·5
Dowmetal O (Simple Press Forgings, etc.)	8·5	—	—	—	—	Bal.	—	—	0·5	Mn 0·2
Dowmetal O1 (As O, but more corr.-res.)	8·5	—	—	0·005 (max.)	—	Bal.	0·005 (max.)	—	0·5	Mn 0·2
Dowmetal P (Sand Castings)...	10·0	—	—	—	—	Bal.	—	—	1·0	Mn 0·1
Dowmetal R (Die Castings) ...	9·0	—	—	—	—	Bal.	—	—	0·6	Mn 0·2
Dowmetal X (Press Forg'gs, etc.)	3·0	—	—	—	—	Bal.	—	—	3·0	Mn 0·2
Dowmetal X1 (As X, but more corr.-res.)	3·0	—	—	0·005 (max.)	—	Bal.	0·005 (max.)	—	3·0	Mn 0·2
Dowmetal EX (Die Castings)...	6·5	—	—	—	—	Bal.	—	—	—	Mn 0·2 : Si 0·2
Drittel Silver	66·7	—	—	—	—	—	—	—	—	Ag 33·3
Duke's Metal (Corr.-Res.) ...	—	—	30	30	—	—	40	—	—	—
Durak (Die-Castings)	4·1	—	1·0	0·075 (max.)	0·003 (max.)	0·03	—	0·001 (max.)	Bal.	Mn 0·02 : Cd 0·003 max.)
Dural	91·76	0·11	6·05	0·79	—	0·46	—	—	—	Mn 0·63 : Si 0·20
,, ...	93·97	0·10	4·03	0·80	—	0·45	—	—	—	Mn 0·59 : Si 0·20
Duralinox (French, *as* Duralu'n)	94·6	—	—	—	—	5·0	—	—	—	Mn 0·4
Duralinox 5 (Rollg. and Forg. Al., Corr.-Res.)	94·5	—	—	—	—	5·0	—	—	—	Mn 0·5

PERCENTAGE COMPOSITION OF NON-FERROUS ALLOYS—(*continued*).

Description of Alloy.	Aluminium.	Chromium.	Copper.	Iron.	Lead.	Magnesium.	Nickel.	Tin.	Zinc.	Miscellaneous.
Duralinox H7	Bal.	—	—	—	—	7·0	—	—	—	—
Duralinox P (Rollg. & Forg. Al.)	87·5	—	—	—	—	12·0	—	—	—	Mn 0·5
Duralite (Cas Pistons) ...	Bal.	—	3·0	1·5	—	0·5	0·5	—	—	Si 0·7 : Ti 0·2
Duralite (Rollg. & Forg. Al.)...	93·6	—	3·0	1·5	—	0·5	0·5	—	—	Si 0·7 : Ti 0·1
Duralum	79	—	10	—	—	11	—	—	—	P 0·5
Duralumin (Rollg. and Forg. Al.—H.T.) (Aver.) ...	94·3	—	4·0	—	—	0·5	—	—	—	Mn 0·5 : Si 0·7
Duralumin (Rollg. and Forg. Al.—H.T.) (Range) ...	Bal.	—	3·5–4·5	0·2–0·5	—	0·4–0·7	—	—	—	Si 0·4–0·8 : Mn 0·4–0·7
Duralumin (Rollg. and Forg. Al.—H.T.) (Typical) ...	Bal.	—	4	0·4	—	0·5	—	—	—	Mn 0·5 : Si 0·4
Duralumin (Airscrew Forgings —D.T.D. 147 and 150)	Bal.	—	3·5–4·5	0·75 (max.)	—	0·40–0·70	—	—	—	Mn 0·40–0·70
Duralumin (Bars, etc.—A.S.T.M. B 89)	92·0 (min.)	—	3·5–4·5	—	—	0·2–0·75	—	—	—	Mn 0·40–1·0
Duralumin Sheet—20 S.W.G.	Bal.	—	4·46	0·47	—	0·55	—	—	—	Si 0·28 : Mn 0·62
,, ,, 15 S.W.G.	Bal.	—	4·47	0·56	—	0·44	—	—	—	Si 0·24 : Mn 0·63
Duralumin Sheet—Ordy. Comml. Brit.	93·95	—	3·82	0·38	—	0·79	—	—	—	Si 0·55 : Mn 0·51
,, ,, ,, ,,	93·79	—	4·11	0·57	—	0·59	—	—	—	Si 0·36 : Mn 0·58
,, ,, ,, ,,	93·89	—	4·17	0·45	—	0·66	—	—	—	Si 0·23 : Mn 0·60
Duralumin Sheet, Tubes, Bar, etc.	Bal.	—	3·5–4·5	0·70 (max.)	—	0·4–0·8	—	—	—	Si 0·70 (max.) : Mn 0·4–0·7 : Ti Nil
Duralumin B	Bal.	—	4·0	—	—	0·6	—	—	—	Mn 0·6
,, DM 31	Bal.	—	4·0	—	—	1·0	—	—	—	Si 0·6 : Mn 1·2
Duralumin E (Sheets, Bars, Forgings, etc.)	Bal.	—	1·5–4·0	0·3–1·5	—	0·3–1·5	2·0 (max.)	—	—	Si 1·5 (max.) : Mn 1·0 (max.) : Ti Nil
Duralumin E (D.T.D. 356 and 364)	Bal.	—	3·0–4·5	1·0 (max.)	—	1·0 (max.)	—	—	—	Si 1·0 (max.) : Mn 1·2 (max.)
Duralumin F (Bars, Forgs., etc.—D.T.D. 252)	Bal.	—	3·5–4·7	0·7 (max.)	—	0·4–1·0	—	—	—	Si 0·7–1·5 : Mn 0·4–1·5
Duralumin G (Bars, Sheets, etc.—D.T.D. Specs.)	Bal.	—	3·5–4·8	0·40 (max.)	—	0·8–1·8	—	—	—	Si 0·50 (max.) : Mn 0·3–1·5 : Ti Nil
Duralumin G (Tubes, Ext. Sect., etc.)	Bal.	—	4·0	—	—	1·3	—	—	—	Mn 0·9

Description of Alloy.	Aluminium.	Chromium.	Copper.	Iron.	Lead.	Magnesium.	Nickel.	Tin.	Zinc.	Miscellaneous.
Duralumin H (Sheets, Strips, Extrusions, etc.)	Bal.	—	—	0·75 (max.)	—	0·5–1·25	—	—	—	Si 0·75–1·25 : Mn 0·50–1·0 : Ti Nil
Duralumin HX (Extrusions, Tubes, Bars, etc.	Bal.	—	1·0 (max.)	0·75 (max.)	—	0·5–1·25	—	—	—	Si 0·75–1·25 : Mn 1·0 (max.) : Ti Nil
Duralumin M (Sheet, Wire and Rivets)	Bal.	—	1·5–3·0	0·70 (max.)	—	0·2–0·5	0·70 (max.)	—	—	Si 0·70 (max.) : Mn 0·50 (max.) : Ti Nil
Duralumin T (Bars, Ext. Sections, Forgs.—D.T.D. 293)	Bal.	0·05–0·3 (if present)	1·5–3·0	0·5–1·5	—	0·5–1·25	0·5–2·0	—	—	Si 0·3–1·5 : Ce (if present) 0·05–0·3
Duralumin T (Extrusions, Forgings)	Bal.	—	1·5–4·0	0·3–1·5	—	0·3–1·5	2·0 (max.)			Si 1·5 (max.) : Mn 1·0 (max.) : Ti Nil
Duralumin Y (Forgings) ...	Bal.	—	3·5–4·5	0·60 (max.)	—	1·2–1·7	1·8–2·3	—	—	Si 0·60 (max.) : Ti Nil
Duralumin 681B	Bal.	—	3·64	0·23	—	0·47	—	—	—	Si 0·23 : Mn 0·57
,, ,, ...	Bal.	—	4·2	0·3	—	0·5	—	—	—	Si 0·3 : Mn 0·6
,, 681BZ	Bal.	—	4·21	0·25	—	0·73	—	—	—	Si 0·39 : Mn 0·63
Durana	1·5	—	65	1·5	—	—	—	2	30	—
Duranalium (Cast—Corr.-Res. Al)	Bal.	—	—	—	—	5–10	—	—	—	Mn 0·2–0·6
,, ,, ,, ,, ,,	93·6	—	—	—	—	6·0	—	—	—	Mn 0·4
Durand's Alloy	66·6	—	—	—	—	—	—	—	33·3	—
Duranic (Range)	Bal.	—	—	—	—	—	2–5	—	—	Mn 1·5–2·5
,, (Typical)	94	—	—	—	—	—	4	—	—	Mn 2
Durcilium (Rollg. & Forg. Al., H.T.)	94·3	—	4·0	—	—	0·5	—	—	—	Mn 0·5 : Si 0·7
,, ,, ,, ,,	Bal.	—	4	—	—	0·5	—	—	—	Mn 0·5
Durex (Porous Brg. Alloy) ...	—	—	83·22	—	—	—	—	10	—	C 4·4–4·7
Durimet B (Corr.-Res. Al.) ...	—	12	—	47·75	—	—	35	—	—	Si 5 : C 0·25
Durode	—	—	Bal.	—	—	—	—	—	—	Ag 2·5 : Cd 2·5
Dutch Metal	—	—	76	—	—	—	—	—	24	—
,, ,, ...	—	—	79·56	—	—	—	—	—	20·44	—
Dysoid	—	—	62	—	18	—	—	10	10	—
Eel Brand Antifriction Metal	—	—	0·8–1·2	—	72–78·5	—	0·7–1·5	5–7	—	Sb 14–16 : As 0·3–0·8 : Cd 0·7–1·5
,, ,, ,, ,,	—	—	0·9	—	75	—	1	6	—	Sb 15 : As 0·5 : Cd 1·5 : P 0·1

PERCENTAGE COMPOSITION OF NON-FERROUS ALLOYS—(*continued*).

Description of Alloy.	Aluminium.	Chromium.	Copper.	Iron.	Lead.	Magnesium.	Nickel.	Tin.	Zinc.	Miscellaneous.
Ehrhardt's Metal	—	—	4	—	3	—	—	4	89	—
,, ,, ...	—	—	3	—	2	—	—	6	89	—
Einheitsmetall	—	—	1·5	—	79·2	—	—	5·3	—	Sb 14
,, ...	—	—	—	—	75	—	—	10	—	Sb 15
Einheits Red Brass	—	—	85	—	—	—	—	9	6	—
Eisen Bronze	—	—	82·5	3·95	—	—	—	8·55	4·45	—
,, ,, ...	0·3	—	57·5	1·3	0·3	—	—	1·0	39·5	—
Eisler's Bronze	—	—	94·1	—	—	—	—	5·9	—	—
Electric Bronze	—	—	87	—	3	—	—	7	3	—
,, ,, ...	—	—	80	—	7·5	—	—	5	7·5	—
Electric Fuse Metal	—	—	—	—	33·33	—	—	66·66	—	—
,, ,, ,, ...	—	—	—	—	30	—	—	70	—	—
,, ,, ,, ...	—	—	Tr.	—	50–10	—	—	59–90	—	Sb 2–3
,, ,, ,, ...	—	—	—	—	40	—	—	56	—	Sb 4
,, ,, ,, ...	—	—	3	—	1	—	—	93	—	Sb 3
Electrical Brass	—	—	84	—	—	—	—	3	13	—
Electrical Bronze (Admty.) ...	—	—	85	—	5	—	—	5	5	—
Electrode Al. (Ult.-Violet Rad'n.)	—	0·5	—	—	—	—	—	—	—	W98 : Ti 1·5
Electroplate	—	—	50–70	—	—	—	10–20	—	5–30	—
Elektron :										
A4 (Sheets—D.T.D. 120A)...	9·0 (max.)	—	0·3 (max.)	—	—	Bal.	—	—	1·5 (max.)	Mn 1·0 (max.) : Si 0·4 (max.)
A8 (Cast—German) ...	8·0	—	—	—	—	Bal.	—	—	—	Mn 0·3
A8 (Usual British Compn.)...	8·0	—	—	—	—	Bal.	—	—	0·25–1·0	Mn 0·3
A8 (D.T.D. 289)	8·5 (max.)	—	—	—	—	Bal.	—	—	3·5 (max.)	Mn 0·5 (max.) : Imp. 1·0 (max.)
A8K (Sand Cast—German)	8·0	—	—	—	—	Bal.	—	—	—	Mn 0·3
A9V ,, ,, ,,	7–11	—	—	—	—	Bal.	—	—	0–0·5	Mn 0–0·5
,, ,, ,, ,,	8·5	—	—	—	—	Bal.	—	—	0·5	Mn 0·3
AM 4·4 (Sheets, etc.) ...	4·0	—	—	—	—	Bal.	—	—	—	Mn 0·4
AM 7·4 (Sand Castings) ...	7·0	—	—	—	—	Bal.	—	—	—	Mn 0·4
AM 503 (Cast and Wrought—D.T.D. Specns.)	0·2 (max.)	—	0·2 (max.)	—	—	Bal.	—	—	0·2 (max.)	Mn 2·5 (max.) : Si 0·4 (max.) : Imp. 0·5 (max.)
AM 503 (Cast & Wrt.—Typ'al)	0·07	—	—	0·03	—	Bal.	—	—	—	Mn 1·79 : Si 0·03

Description of Alloy.	Aluminium.	Chromium.	Copper.	Iron.	Lead.	Magnesium.	Nickel.	Tin.	Zinc.	Miscellaneous.
Elektron—Contd.										
AM 503 (German Standard)	—	—	—	—	—	Bal.	—	—	—	Mn 1–2·5
,, (German—Typical)	—	—	—	—	—	Bal.	—	—	—	Mn 1·8
AS 82 (Forged Pistons) ...	8·0	—	0·3	—	—	Bal.	—	—	0·5	Si 2·0 : Mn 0·35 : Cd 1·5
AZ (Sand-Castings)... ...	4·0	—	0·3	—	—	Bal.	—	—	3·0	Si 0·3 : Mn 0·35
AZ 31 (Cast. & Wrt.—Germn.)	2·5–3·5	—	—	—	—	Bal.	—	—	0·5–1·5	Mn 0–0·5
,, ,, ,, ,, ,, ,,	3	—	—	—	—	Bal.	—	—	1	Mn 0·3
AZ 91 (Castings—Fully H.T.)	9·7	—	—	—	—	Bal.	—	—	0·6	Mn 0·3
,, ,, (Castings—D.T.D.281–5)	9–11	—	—	—	—	Bal.	—	—	1·0 (max.)	Mn 0·5 (max.) : Tot. Imp. 1·0 (max.)
,, ,, (,, Us'l Brit. Comp.)	10	—	—	—	—	Bal.	—	—	0·5–1·0	Mn 0·3
,, ,, (Chill Castings—Germn.)	9·5	—	—	—	—	Bal.	—	—	0·5	Mn 0·3
AZ 855 (Forg. & Pressing Al.)	8·0	—	—	—	—	Bal.	—	—	0·5	Mn 0·3
,, (Forgings)	7·5–8·5	—	—	—	—	Bal.	—	—	0·40–0·55	Mn 0·15–0·25
,, ,, ...	8·5	—	—	—	—	Bal.	—	—	0·50	Mn 0·1
AZF (Castg. Al.—Germ. Std.)	3–4·5	—	—	—	—	Bal.	—	—	2–3·5	Mn 0–0·5
,, ,, ,, ,, ,,	4	—	—	—	—	Bal.	—	—	3	Mn 0·3
,, ,, ,, ,, ,,	3·64	—	0·26	0·06	—	Bal.	—	—	2·70	Mn 0·33 : Si 0·25
AZG ,, ,, ,, ,,	5–6·5	—	—	—	—	Bal.	—	—	2–3·5	Mn 0–0·5
,, ,, ,, ,, ,,	6	—	—	—	—	Bal.	—	—	3	Mn 0·3
AZM (Forg., Pressg. & Rollg.)	6·3	—	—	—	—	Bal.	—	—	1·0	Mn 0·3
,, (Forged—not Pistons)	6·02	—	Tr.	0·01	—	92·58	—	—	0·90	Mn 0·41 : Si 0·08
,, ,, ,, ,,	6·50	—	—	—	—	Bal.	—	—	1·00	Mn 0·20
,, ,, ,, ,,	6·3	—	—	—	—	Bal.	—	—	1·0	Mn 0·35 : Si 0·2
,, (Sheets)	6·15–6·45	—	—	—	—	Bal.	—	—	0·8–1·2	Mn 0·2–0·5 : Si 0–0·2
,, (Sheets—D.T.D. 120A)	9·0 (max.)	—	0·3 (max.)	—	—	Bal.	—	—	1·5 (max.)	Mn 1·0 (max.) : Si 0·4 (max.)
,, (Tubes—D.T.D. 348)	7·5 (max.)	—	—	—	—	Bal.	—	—	1·5 (max.)	Mn 1·0 (max.) : Imp. 1·5 (max.)
CM Si (Castg. Al.—Germ. Std.)	—	—	—	—	—	Bal.	—	—	—	Si 0·5–2
,, (Sand Castings) ...	—	—	—	—	—	Bal.	—	—	—	Mn 0·3 : Si 1·3
V1 (Die Castings)	10·0	—	0·30	—	—	Bal.	—	—	0·60	Mn 0·35 : Si 0·30
,, (Extrusions)	9·5–11·5	—	—	—	—	Bal.	—	—	0–0·6	Mn 0·2–0·5 : Si 0–0·3

PERCENTAGE COMPOSITION OF NON-FERROUS ALLOYS—(*continued*).

Description of Alloy.	Alu-minium.	Chrom-ium.	Copper.	Iron.	Lead.	Mag-nesium.	Nickel.	Tin.	Zinc.	Miscellaneous.
Elektron—Contd.										
V1 (Forg. and Pressg.) ...	10	—	—	—	—	Bal.	—	—	—	Mn 0·3
,, ,, ,, ,, ...	10·09	—	Tr.	0·04	—	Bal.	—	—	—	Mn 0·40 : Si 0·05
Z1b (Forg. and Pressg.) ...	—	—	—	—	—	Bal.	—	—	4·5	—
Z3 (Sheet)	0–0·2	—	—	—	—	Bal.	—	—	3·0	Si 0–0·3
Electrum	—	—	51·61	—	—	—	25·81	—	22·58	—
Elinvar (Const. Expans. Alloy)	—	12	—	—	—	—	36	—	—	W Bal : C Some
Elkonite (Electrode)	—	—	25·1	—	—	—	—	—	—	W 74·25
Emperor Brass	20	—	60	—	—	—	—	—	20	—
Engraver's Brass	—	—	66	—	1	—	—	—	33	—
Escutcheon Pin Brass ...	—	—	64·5	—	0·43	—	—	—	35·07	—
Eureka (Resistance Alloy) ...	—	—	60	—	—	—	40	—	—	—
Eureka—*See* Manganin										
Eutectal (Compagnie Alais) ...	Bal.	—	1·5	—	—	—	—	—	—	Mn 0·8 : Mg_2Si 1·58 : Si (free) 0·25 : Ti 0·35
,, (Castings—H.T.) ...	95·5	—	1·5	—	—	1·0	—	—	—	Mn 0·8 : Si 0·8 : Ti 0·4
Everbrite (Corr.-Res. Alloy) ...	—	—	60–55	Bal.	—	—	30–35	—	—	—
,, ,, ,, ,, ...	—	—	59·8	0·8	4·5	—	24·9	5·6	4·2	—
,, ,, ,, ,, ...	—	—	Bal.	—	—	—	35·0	—	—	Mn 2·5
,, ,, ,, ,, ...	—	3	60	3	—	—	30	—	—	Si 3
,, 82 (Corr.-Res. Alloy)	—	—	60–64	6–8	—	—	29–31	—	—	Mn 0·25 : Si 0·3–0·5
Everdur (Non-Corr. Castg. Alloy)	—	—	94·3	—	—	—	—	—	—	Si 4·5 : Mn 1·2
,, ,, ,, ,, ,,	—	—	94·5	—	—	—	—	—	—	Si 4·5 : Mn 1·0
,, ,, ,, ,, ,,	—	—	94·8	—	—	—	—	—	—	Si 4·0 : Mn 1·2
,, ,, ,, Forg. ,,	—	—	96·0	—	—	—	—	—	—	Si 3·0 : Mn 1·0
,, ,, ,, ,, ,,	—	—	95–96	0·5 (max.)	—	—	—	—	—	Si 2·75–3·25 : Mn 0·75–1·25
,, (Tubes—D.T.D. 307 and 312)	—	—	85–97	0·5 (max.)	—	—	—	—	Bal.	Si 1·0–3·5 : Mn 1·5 (max.)
Everdur No. 9 ("Most weldable")	—	—	57	—	—	—	—	—	42	Si Some : Mn 0·5
Everdur No. 50 (Non-Corr. Castg. Alloy)	—	—	95	—	—	—	—	—	—	Si 4 : Mn 1

Description of Alloy.	Alu-minium.	Chrom-ium.	Copper.	Iron.	Lead.	Mag-nesium.	Nickel.	Tin.	Zinc.	Miscellaneous.
Everest Metal (Brg. Alloy) ...	—	—	0·8–1·2	—	Bal.	—	0·7–1·5	5–7	—	Sb 14–16 : As 0·3–0·8 : Cd 0·7–1·5
Excello	—	14	—	0·5	—	—	85	—	—	Mn 0·5
Eyelet Brass	—	—	68	—	—	—	—	—	32	—
,, ,, ...	—	—	65	—	—	—	—	—	35	—
Fahlun Brilliants	—	—	—	—	40	—	—	60	—	—
Fahrite No. 1 (Heat Resg.—2000° F.)	—	15	—	50	—	—	35	—	—	—
Fenton's Alloy...	—	—	6	—	—	—	—	14	80	—
,, ,, ...	—	—	8·5	—	—	—	—	—	80	Sb 11·5
Fenton's Metal...	—	—	5·5	—	—	—	—	14·5	80	Sb Nil
Fernichrome (Sealing Alloy for Lead Glass)	—	8	—	37	—	—	30	—	—	Co 25
Fernico (Wrt. Alloy—expansn. as hard glass)	—	—	—	Bal.	—	—	23–30	—	—	Co 30–17 : Mn 0·6–0·8
Ferro Bronze	—	0·72	90·7	8	—	—	—	—	—	—
Ferro-Chromium :										
A.S.T.M. A101–27 (High C., Grade A)	—	60–75	—	Bal.	—	—	—	—	—	C 4–8 (as specified): Si as specified
A.S.T.M. A101–27 (Low C., Grade B)	—	60–75	—	Bal.	—	—	—	—	—	C 1·5–2·0 : Si as specified
A.S.T.M. A101–27 (Low C., Grade C)	—	60–75	—	Bal.	—	—	—	—	—	C 1·0–1·5 : Si as specified
A.S.T.M. A101–27 (Low C., Grade D)	—	60–75	—	Bal.	—	—	—	—	—	C 1·0 (max.) : Si as specified
Bur. of Analysed Samples—										
Low C., No. 203	—	69·0	—	Bal.	—	—	—	—	—	C 0·08 : S 0·01
High C., No. 204	—	71·4	—	Bal.	—	—	—	—	—	C 5·09 : S 0·02
Electrothermic—										
8–10% Carbon	0·80	64·5	—	22·0	—	—	—	—	—	Mn 0·15 : C 9·5 : Si 2·25 : Ca 0·25 : S 0·04 : P 0·03
7–8% ,, ...	0·80	63·5	—	21·5	—	—	—	—	—	Mn 0·15 : C 7·5 : Si 5·80 : Ca 0·25 : S 0·04 : P 0·03

PERCENTAGE COMPOSITION OF NON-FERROUS ALLOYS—(*continued*).

Description of Alloy.	Aluminium.	Chromium.	Copper.	Iron.	Lead.	Magnesium.	Nickel.	Tin.	Zinc.	Miscellaneous.
Ferro-Chromium—Contd.										
Electrothermic—										
5–6% ,, ...	0·50	64·0	—	28·5	—	—	—	—	—	Mn 0·15 : C 5·5 : Si 0·4 : Ca 0·25 : S 0·04 : P 0·03
3–4% ,, ...	0·40	64·0	—	31·0	—	—	—	—	—	Mn 0·15 : C 3·5 : Si 0·3 : Ca 0·30 : S 0·04 : P 0·02
1% ,, ...	0·10	63·5	—	35·0	—	—	—	—	—	Mn 0·10 : C 0·60 : Si 0·2 : Ca 0·35 : S 0·03 : P 0·02
French—Coarse	2·01	61·84	—	21·32	—	—	—	—	—	Mn 0·13 : C 7·11 : Si 7·66 : S 0·007 : P 0·017
,, Fine	7·41	58·80	—	19·50	—	—	—	—	—	Mn 0·32 : C 6·95 : Si 6·91 : S 0·005 : P 0·027
,, Hard	Nil	67·56	—	18·37	—	—	—	—	—	Mn 0·55 : C 8·20 : Si 6·06 : S 0·014 : P 0·014
,, Soft	Nil	68·19	—	17·92	—	—	—	—	—	Mn 0·41 : C 8·75 : Si 5·55 : S 0·021 : P 0·008
Ferro-Cobalt :										
C. M. Johnson	1·90	—	—	21·49	—	—	0·60	—	—	Mn 0·08 : Co 75·25 : Si 0·77 : S 0·014 : P 0·019
Electrothermic (Standard)...	—	—	—	Bal.	—	—	—	—	—	Si 0·65 : C 0·25 : S 0·02 : P Nil : Co 77–78 : Mn Nil
Ferro-Columbium	—	—	—	Bal.	—	—	—	—	—	Cb 50–60 : Ta 6 (max.)
Ferro-Copper (Hardener) ...	—	—	Bal.	10	—	—	—	—	—	—
,, ,, ,, ...	—	—	84·74	14·90	—	—	—	—	—	Si 0·31 : C 0·04
,, ,, ,, ...	—	—	Bal.	20	—	—	—	—	—	—

Description of Alloy.	Alu-minium.	Chrom-ium.	Copper.	Iron.	Lead.	Mag-nesium.	Nickel.	Tin.	Zinc.	Miscellaneous.
Ferro-Copper (Hardener) ...	—	—	Bal.	30	—	—	—	—	—	—
,, ,, ,, ...	—	—	Bal.	50	—	—	—	—	—	—
Ferro-Cupralium (Chill-Cast)...	11·19	—	75·21	13·27	—	—	—	—	—	—
Ferro-Manganese: A.S.T.M. No. A99–27 ...	—	—	—	Bal.	—	—	—	—	—	Mn 78·0 (min.) : P 0·35 (max.) : C 7·5 (max.) : Si 1·0 (max.) : S 0·05 (max.)
Blast F'ce. Product ...	—	—	—	11·80	—	—	—	—	—	Mn 80·20 : Si 1·16 : C 6·46 : P 0·38
,, ,, (Standard) ...	—	—	—	Bal.	—	—	—	—	—	Mn 76–80 : C 7·0 : Si 0·60 : S 0·005 : P 0·15
Brit. Blast F'ce. Prod. (Brit. Chem. Std. No. 208)	Tr.	Tr.	0·025	13·37	—	—	Tr.	—	—	Mn 78·00 : C 6·58 : Si 1·27 : S 0·014 : P 0·237 : As 0·027 : Ti 0·082
Commercial	—	—	—	10·00	—	—	—	—	—	Mn 82·36 : C 6·68 : Si 0·56 : S Tr. : P 0·30 : As 0·075
Electrothermic, French ...	—	—	—	17·62	—	—	—	—	—	Mn 80·0 : C 2·09 : P 0·292
Ferrolegeringar (Swedish) ...	—	—	—	18·89	—	—	—	—	—	Mn 79·34 : C 0·94 : Si 0·66 : S 0·017 : P 0·154
Low Carbon (British) ...	—	—	—	Bal.	—	—	—	—	—	Mn 79·10 : C 0·58 : Si 5·22 : P 0·157
Mostyn (Bl. Furn. Prod.) ...	—	—	0·08	11·73	—	—	—	—	—	Mn 80·47 : C 6·79 : Si 0·69 : P 0·21 : As 0·03
Norwegian	—	—	0·016	14·1	—	—	—	—	—	Mn 78·5 : C 6·94 : Si 0·21 : S 0·014 : P 0·18 : As 0·046

PERCENTAGE COMPOSITION OF NON-FERROUS ALLOYS—(*continued*).

Description of Alloy.	Aluminium.	Chromium.	Copper.	Iron.	Lead.	Magnesium.	Nickel.	Tin.	Zinc.	Miscellaneous.
Ferro-Molybdenum : Brit. Chem. Std. No. 200 ...	—	—	0·07	Bal.	—	Nil	—	—	—	Mo 72·1 : C 0·06 : Si 1·48 : S 0·04 : P 0·03 : Mn 0·01 : Ca Nil
Electrothermic	—	—	—	Bal.	—	—	—	—	—	Mo 50·55 : C 6·73 : Si 0·94 : P 0·078 S 0·19
Electrothermic (80–85% Grade)	—	—	—	10·96	—	—	—	—	—	Mo 85·80 : C 3·07 : Si 0·11 : S 0·05 : P 0·007
Electrothermic (Refined 50% Grade)	—	—	—	48·92	—	—	—	—	—	Mo 50·31 : C 0·35 : Si 0·30 : S 0·030 : P 0·020
Electrothermic (Refined 80–85% Grade)	—	—	—	14·05	—	—	—	—	—	Mo 85·20 : C 0·45 : Si 0·25 : S 0·031 : P 0·020
Electrothermic (Standard)...	—	—	—	Bal.	—	—	—	—	—	Mo 70–75 : C 0·04 : Si 0·5–2·0 : S 0·05 : P 0·05 : Mn 0·05
High Carbon Type (C. M. Johnson)	—	—	—	23·26	—	—	—	—	—	Mo 71·30 : C 3·66 : Si 0·86 : P 0·035 : Mn 0·13
Low Carbon (A.S.T.M. A145 –34)	—	—	0·25 (max.)	Bal.	—	—	—	—	—	Mo 55–65 : C 0·25 (max.) : Si 1·50 (max.) : S 0·25 (max.) : P 0·10 (max.)
Murex Ltd. (70 Per Cent.) ...	—	—	—	Bal.	—	—	—	—	—	Mo 70 (approx.) : C comm. free : S 0·10 (max.) : P 0·05 (max.)

Description of Alloy.	Alu-minium.	Chrom-ium.	Copper.	Iron.	Lead.	Mag-nesium.	Nickel	Tin.	Zinc.	Miscellaneous.
Ferro-Molybdenum—Contd. Murex Ltd. (80 Per Cent.) ...	—	—	—	Bal.	—	—	—	—	—	Mo 80·2 : C 0·06 : Si 0·98 : S 0·02 : P 0·05
Standard (A.S.T.M. A132–34)	—	—	0·25 (max.)	Bal.	—	—	—	—	—	Mo 50–60 : C 2·50 (max.) : S 0·25 (max.) : P 0·10 (max.)
Ferro-Molybdenum-Tungsten	—	—	—	42·12	—	—	—	—	—	Mn 0·32 : W 10·02 : Mo 42·66 : C 1·84 : Si 1·85 : S 0·14 : P 0·086
Ferro-Nickel (Electrothermic—Standard)	—	—	—	Bal.	—	—	25–75	—	—	Si 0·25 : C 0·85 : S 0·015 : P 0·025
Ferro-Selenium (Am. Smelt. & Refin. Co.)	—	—	—	41·42	—	—	—	—	—	Se 52·11 : C 0·90 : Si 0·72 : S 0·22 : P 0·20
Ferro-Silico-Aluminium ...	45–50	—	—	12–15	—	—	—	—	—	Si 35–40 : Ti 2–3 : C 0·5–1·0 : S 0·03 : P 0·05 : Mn 0·5 : Ca 0·30
,, ,, ,, ...	18–22	—	—	20–24	—	—	—	—	—	Si 40–50 : plus C, S, P and Mn
,, ,, ,, ...	8–10	—	—	Bal.	—	—	—	—	—	Si 75–80
Ferro-Silicon : A.S.T.M. Spec. A100–27, Gr. A	—	—	—	Bal.	—	—	—	—	—	Si 47–53
,, ,, ,, ,, ,, B	—	—	—	Bal.	—	—	—	—	—	Si 72–78
,, ,, ,, ,, ,, C	—	—	—	Bal.	—	—	—	—	—	Si 85–95
Austrian	2·73	—	—	36·85	—	0·17	—	—	—	C 0·22 : Si 59·40 : S Trace : P 0·056 : Mn 0·08 : Ca 0·14
,, ...	3·47	—	—	41·27	—	0·06	—	—	—	C 0·49 : Si 53·80 : S 0·01 : P 0·069 : Mn 0·10 : Ca 0·10

PERCENTAGE COMPOSITION OF NON-FERROUS ALLOYS—(*continued*).

Description of Alloy.	Alu-minium.	Chrom-ium.	Copper.	Iron.	Lead.	Mag-nesium.	Nickel.	Tin.	Zinz.	Miscellaneous.
Ferro-Silicon—Contd.										
Austrian	2·67	—	—	41·70	—	0·05	—	—	—	C 0·15 : Si 55·08 : S Trace : P 0·104 : Mn 0·06 : Ca 0·09
Electrothermic, Standard ...	—	—	—	Bal.	—	—	—	—	—	C 0·1–0·7 : Si 25–95 : S 0·005 : P 0·02–0·05 : Mn 0·1–0·6
Typical British	—	—	—	Bal.	—	—	—	—	—	Si 78
Ferro-Tantalum-Columbium (Hardener)	—	—	—	Bal.	—	—	—	—	—	Ta plus Cb 70–80
Ferro-Tungsten (Hardener) : A.S.T.M. Spec. A144–34 ...	—	—	0·15 (max.)	Bal.	—	—	—	0·10 (max.)	—	W 75–85 : C 0·75 (max.) : Si 1·0 (max.) : S 0·06 (max.) : P 0·06 (max.) : Mn 1·0 (max.) : As 0·10 (max.) : Sb 0·08 (max.) : As+Sb +Sn 0·2 (max.)
Blackwell's Metallurgical Wks.	—	—	—	Bal.	—	—	—	—	—	W 80–85
Electrothermic, Standard	—	—	—	Bal.	—	—	—	—	—	W 80–85 : C 0–0·1 : Si 1·0 : S 0·04 : P 0·05 : Mn 0·5
Girod (Ugine)	—	—	—	Bal.	—	—	—	—	—	W 73·83
Good Commercial	—	—	—	15·9	—	—	—	—	—	W 78·8 : C 3·2 : Si 1·87 : S 0·11 : P 0·10
Murex, Ltd.	—	—	—	Bal.	—	—	—	0·05	—	W 84·33 : C 0·05 : Si 0·50 : S 0·01 : P 0·01 : Mn 0·23
No. 1 Typical	—	—	—	19·0	—	—	—	0·10	—	W 73·0 : C 3·5 : Si 0·40 : S 0·050 : P 0·030 : Mn 3·5 : Ca Trace : As 0·40

Description of Alloy.	Aluminium.	Chromium.	Copper.	Iron.	Lead.	Magnesium.	Nickel.	Tin.	Zinc.	Miscellaneous.
Ferro-Tungsten—Contd.										
No. 2 Typical	—	—	—	18·5	—	—	—	0·05	—	W 78·5 : C 1·7 : Si 0·3 : S 0·04 : P 0·015 : Mn 0·4 : Ca 0·1 : As 0·1
No. 3 Typical	—	—	—	15·5	—	—	—	0·05	—	W 83·0 : C 0·60 : Si 0·40 : S 0·04 : P 0·015 : Mn 0·20 : Ca 0·15 : As 0·10
Typical	0·25	—	—	Bal.	—	—	—	—	—	W 85·0 : C 0·3 : Si 0·45 : S 0·01 : Mn 0·45
Ferro-Uranium :										
Alloy No. 3 (Polushkin) ...	—	—	—	41·9	—	—	—	—	—	U 55·2 : V 0·71 : C 0·98 : Si 1·11
,, ,, 19 ,, ...	0·08	—	—	2·41	—	—	—	—	—	U 85·2 : V 2·07 : C 7·42 : Si 1·45
,, ,, 35 ,, ...	—	—	—	46·88	—	—	—	—	—	U 41·6 : V 1·76 : C 4·57 : Si 3·55
Flaky Crystallites (Polushkin)	—	—	—	39·80	—	—	—	—	—	U 50·75 : V 1·38 : C 5·46 : Si 1·56
Large ,, ,,	—	—	—	42·80	—	—	—	—	—	U 48·21 : V 1·51 : C 5·36 : Si 1·80
Ferro-Vanadium :										
Girod, Ugine	—	—	—	Bal.	—	—	—	—	—	C 3–3·5 : V 45–55
Murex, Ltd.	—	—	—	Bal.	—	—	—	—	—	C 0·10 (max.) : Si 0·10 (max.) : S 0·05 (max.) : V 50 (approx.)
No 4 (C. M. Johnson) ...	—	0·22	—	41·50	—	—	—	—	—	C 3·09 : Si 0·43 : S 0·52 : P 0·28 : Mn 0·07 : Mo 0·50 : V 52·5

PERCENTAGE COMPOSITION OF NON-FERROUS ALLOYS—(*continued*).

Description of Alloy.	Aluminium.	Chromium.	Copper.	Iron.	Lead.	Magnesium.	Nickel.	Tin.	Zinc.	Miscellaneous.
Ferro-Vanadium—Contd.										
No. 11 (C. M. Johnson) ...	1·43	—	Nil	42·60	—	—	7·74	—	—	C 0·19 : Si 8·35 : S 0·20 : Mn 4·11 : V 35·62
Typical British (Brit. Chem. Std. No. 205)	—	—	—	Bal.	—	—	—	—	—	C 0·16 : Si 1·18 : S 0·03 : P 0·05 : V 52·2
Ferro-Zirconium :										
British, 14 Per Cent. ...	—	—	—	Bal.	—	—	—	—	—	Zr 12–15 : Si 39–43
,, 40 ,, ,, ...	—	—	—	Bal.	—	—	—	—	—	Zr 35–40 : Si 47–52
German	7·7	—	—	26	—	—	—	—	—	Zr 65 : Ti 0·12
Ferron (Acid-Resisting) ...	—	15	—	50	—	—	35	—	—	—
Ferry-Metal (Heat-Res. Alloy)	—	—	55–56	—	—	—	45–44	—	—	—
,, ,, ,, ,, ,,	—	—	54	—	—	—	45	—	—	Mn 1
,, ,, ,, ,, ,,	—	—	57·83	0·60	—	—	40·63	—	—	Mn 1·04
Fibrite (Heat-Res. Alloy) ...	—	17	—	Bal.	—	—	35	—	—	—
File Metal	—	—	64·4	—	7·6	—	—	18	10	—
,, ,, ...	—	—	62	—	8	—	—	20	10	—
,, ,, ...	—	—	61·5	—	8·5	—	—	30	—	—
Firearmor (Heat-Res. Alloy) ...	—	18·5	—	20·5	—	—	61	—	—	—
Flange Metal (French) ...	—	—	94·35	—	0·05	—	—	5·6	—	—
,, ,, (German) ...	—	—	92·4	—	—	—	—	2·5	5·05	—
Fletcher's Alloy	95·5	—	3	—	—	—	—	1	—	Sb 0·5
Fob Metal	—	—	87·5	—	—	—	—	0·5	12·0	—
Foil Metal	—	—	1	—	86·5	—	—	12·5	—	—
Forbes Metal	—	—	46·5	—	—	—	—	—	53·5	—
Fortal (Rollg. & Forg. Al., H.T.)	94·3	—	4·0	—	—	0·5	—	—	—	Mn 0·5 : Si 0·7
Fourdrinier Wire	—	—	84·63	—	—	—	—	0·37	15	—
,, ,, ...	—	—	80	—	—	—	—	—	20	—
Frary Metal (Brg. Alloy) ...	—	—	—	—	96·75	—	—	—	—	Ba 2 : Ca 1 : Hg 0·25
,, ,, ,, ,, ...	—	—	—	—	97·5	—	—	—	—	Ba 2 (max.) : Ca 1 (max.) : Hg 0·25

Description of Alloy.	Aluminium.	Chromium.	Copper.	Iron.	Lead.	Magnesium.	Nickel.	Tin.	Zinc.	Miscellaneous.
Frary Metal (Brg. Alloy) ...	Nil	—	0·04	0·11	97·05	Nil	Trace	Nil	0·04	As 0·01 : Ba 1·30 : Bi Nil : Ca 0·79 : Co Nil : Sb Nil : O (diff.) 0·66
,, ,, (Packing Ring) ...	—	—	0·20	0·16	98·33	—	—	Trace	Nil	Ba 0·76 : Ca 0·52 : Sb Nil
Fuller Alloy (Casting Alloy, H.T.)	94·5	—	—	—	—	0·5	—	—	5·0	—
Furukawa Magnetic Alloy (Cables)	—	0·3–13·5	—	15–78	—	—	20–83	—	—	Co 0·6–27 : Si 0·1–4·5 : Mn 0·5–2·0
Fusible Alloy (M.Pt. 96° C.) ...	—	—	—	—	32	—	—	15·5	—	Bi 52·5
,, ,, (M.Pt. 93·7° C.)	—	—	—	—	25	—	—	25	—	Bi 50
,, ,, (M.Pt. 93·3° C.)	—	—	—	—	22·22	—	—	22·22	—	Bi 55·55
,, ,, (M.Pt. 91·6° C.)	—	—	—	—	33·5	—	—	16·5	—	Bi 50
,, ,, (M.Pt. 91·5° C.)	—	—	—	—	40·2	—	—	—	—	Bi 51·6 : Cd 8·1
,, ,, (M.Pt. 84·5° C.)	—	—	—	—	31·25	—	—	18·75	—	Bi 50
,, ,, (M.Pt. 80° C.) ...	—	—	—	—	35·1	—	—	20	—	Bi 35·3 : Cd 9·5
,, ,, (M.Pt. 75° C.) ...	—	—	—	—	27·6	—	—	10·3	—	Bi 27·6 : Cd 34·5
,, ,, (M.Pt. 70° C.) ...	—	—	—	—	28·6	—	—	14·3	—	Bi 50 : Cd 7·1
,, ,, (M.Pt. 68·5° C.)	—	—	—	—	26	—	—	14·8	—	Bi 52·2 : Cd 7·0
,, ,, (M.Pt. 65·5° C.)	—	—	—	—	25	—	—	12·5	—	Bi 50 : Cd 12·5
,, ,, (M.Pt. 60–68° C.)	—	—	—	—	26·7	—	—	13·3	—	Bi 50 : Cd 10
Fusible Plugs (Chlorine Cont'ers)	—	—	—	—	27·27	—	—	13·13	—	Bi 49·50 : Cd 10·10
Fusible Tea Spoons	—	—	—	—	30	—	—	16·5	—	Bi 44·5 : Hg 9
Gallimore Metal	—	—	28	—	—	—	45	—	25	Fe, Si and Mn 2
Gama (Casting Alloy, H.T.) ...	98·1	—	—	—	—	0·4	1·5	—	—	—
Gas Meter Alloys :										
Cover Metal	—	—	—	—	—	—	—	64	—	Sb 36
Covers	—	—	—	—	—	—	—	70	—	Sb 30
Crank Arms	—	—	—	—	4	—	—	90	—	Sb 6
Cranks	—	—	17·2	—	2·8	—	—	80	—	—
Drum Shafts and Brgs. ...	—	—	80	—	2·8	—	—	17·2	—	—
Grating Metal	—	—	—	—	—	—	—	68	—	Sb 32
Measuring Drums	—	—	—	—	—	—	—	91·8	—	Sb 8·2
Rod & Crank Studs, Rollers, Tees. etc.	—	—	—	—	84	—	—	10	—	Sb 6

PERCENTAGE COMPOSITION OF NON-FERROUS ALLOYS—(*continued*).

Description of Alloy.	Alu-Dinium.	Chrom-ium.	Copper.	Iron.	Lead.	Mag-nesium.	Nickel	Tin.	Zinc.	Miscellaneous.
Gas Meter Alloys—Contd.										
Valve Grids and Covers ...	—	—	—	—	—	—	—	66·6	—	Sb 33·3
Valve Grids & Covers (Harder)	—	—	—	—	—	—	—	65	—	Sb 35
Valves	—	—	0·65	0·05	59·9	—	—	32·4	—	Sb 5
Gedge's Metal	—	—	60	1·5	—	—	—	—	38·5	—
Genelite (Graphited Brg. Alloy)	—	—	70·18	0·22	9	—	—	13·72	1·47	Graph. C 5·35 : P 0·055
German Brass	—	—	49·47	—	—	—	—	—	50·53	—
German Silver—*See* Nickel Silver										
Gibsiloy (Sintered—Elec. Conts.)	—	—	—	—	—	—	40	—	—	Ag 60
Gilding Foil	—	—	2·16	0·11	—	—	—	97·6	—	—
Gilding Metal	—	—	93	—	—	—	—	—	7	—
Glowray (Resist. Al.—to 850° C.)	—	12	—	23	—	—	65	—	—	—
,, ,, ,, ,, ,, ,,	—	15	—	20	—	—	65	—	—	—
Gold-Base Complex Alloys :										
Dental Alloy	0·25	—	9	—	—	—	—	—	—	Au 64 : Ag 18·75 : Pd 8
High Strength (14 Carat) ...	—	—	16	—	—	—	17	—	8·65	Au 58·35
,, ,, (18 Carat) ...	—	—	3·5	—	—	—	16·5	—	5·0	Au Bal.
Pens	—	—	—	—	—	—	10	—	—	Au 60 : W 20 : Ir 10
Pens and Pin Tongue ...	—	—	22·9	—	—	—	—	—	2·1	Au 58·3 : Ag 16·7
Gold Bronze	—	—	90·5	—	—	—	—	6·5	3	—
Gold-Chromium Complex Alloys :										
Dental Alloy	—	40	6·66	—	—	—	13·33	—	—	Au 33·33 : Mo 3·33 : Ag 3·33
,, ,, ...	—	23·33	13·33	—	—	—	23·33	—	—	Au 33·33 : Mo 3·33 : Ag 3·33
Gold Coinage Alloys :										
Ducat, Austria	—	—	1·4	—	—	—	—	—	—	Au 98·6
Double Ducat, Holland ...	—	—	1·7	—	—	—	—	—	—	Au 98·3
Edward III Old Sterling ...	—	—	0·52	—	—	—	—	—	—	Au 99·48
£1, Egypt	—	—	5	—	—	—	—	—	—	Au 87·5 : Ag 7·5
50 piastre, Egypt	—	—	10	—	—	—	—	—	—	Au 87·5 : Ag 2·5
Siam	—	—	Bal.	—	—	—	—	—	—	Au 65

Description of Alloy.	Aluminium.	Chromium.	Copper.	Iron.	Lead.	Magnesium.	Nickel.	Tin.	Zinc.	Miscellaneous.
Gold-Copper Alloys :										
Anodes and Cathodes ...	—	—	10	—	—	—	—	—	—	Au 90
Gold Leaf	—	—	77–78	—	—	—	—	—	23–22	—
,, ,, ...	—	—	66–80	—	—	—	—	—	34–20	—
,, ,, ...	—	—	84	—	—	—	—	—	16	—
,, ,, (Aix)	—	—	64·8	—	0·4	—	—	2·0	32·8	—
,, ,, (Jemmapes) ...	—	—	64·6	—	0·2	—	—	1·4	33·7	—
,, ,, (Vienna)	—	—	77·5	—	—	—	—	—	22·5	—
Gold-Nickel Alloys :										
Contacts (Muller)	—	—	—	—	—	—	10	—	—	Au 90
Gold-Nickel-Tungsten Alloys :										
Acid-Resisting	—	—	—	—	—	—	10–15	—	—	Au 75 : W 10–15
Gold-Nickel-Zinc-Copper Alloys:										
Contacts	—	—	2·96	—	—	—	16·7	—	5·34	Au 75
Gold-Palladium Alloys :										
Acid-Resisting	—	—	—	—	—	—	—	—	—	Au 90–60 : Pd 10–40
Gold-Palladium-Platinum Alloys:										
Dental Alloys	—	—	—	—	—	—	—	—	—	Au 45–55 : Pd 30–35 : Pt 15–20
Gold-Silver-Nickel Alloys :										
Contacts	—	—	—	—	—	—	5	—	—	Au 70 : Ag 25
Gold-Silver-Palladium Alloys :										
Contacts	—	—	—	—	—	—	—	—	—	Au 45 : Ag 45 : Pd 10
Gold-Silver-Platinum Alloys :										
Contacts	—	—	—	—	—	—	—	—	—	Au 67·5–70 : Ag 25 : Pt 5–7·5
Gold Solders :										
18 Carat	—	—	12	—	—	—	—	—	—	Au 75 : Ag 13
18 Carat	—	—	6·25	—	—	—	—	—	—	Au 62·5 : Ag 31·25
18 Carat	—	—	8·3	—	—	—	—	—	—	Au 75 : Ag 16·6
18 Carat White	—	—	—	—	—	—	10	—	6	Au 82 : Cd 2
18 Carat White	—	—	1·5	—	—	—	7	—	17	Au 61 : Ag 13·5
16 Carat	—	—	8·3	—	—	—	—	—	—	Au 75 : Ag 16·6
16 Carat	—	—	6·25	—	—	—	—	—	—	Au 62·5 : Ag 31·25

PERCENTAGE COMPOSITION OF NON-FERROUS ALLOYS—(*continued*).

Description of Alloy.	Aluminium.	Chromium.	Copper.	Iron.	Lead.	Magnesium.	Nickel.	Tin.	Zinc.	Miscellaneous.
Gold Solders—Contd.										
14 Carat	—	—	16·6	—	—	—	—	—	—	Au 50 : Ag 33·3
14 Carat White	—	—	1	—	—	—	—	—	11	Au 50 : Ag 36 : Cd 2
12 Carat	—	—	17·1	—	—	—	—	—	—	Au 47·8 : Ag 29 : Brass 6·1
10 Carat	—	—	21·2	—	—	—	—	—	—	Au 41·2 : Ag 37 : Brass 0·6
10 Carat White	—	—	1	—	—	—	—	—	12	Au 30 : Ag 55 : Cd 2
9 Carat	—	—	25	—	—	—	—	—	—	Au 25 : Ag 50
8 Carat	—	—	23·4	—	—	—	—	—	—	Au 40 : Ag 36·6
"Best"	—	—	15	—	—	—	—	—	—	Au 62·5 : Ag 22·5
"Easy Melt"	—	—	13·75	—	—	—	—	—	—	Au 54·5 : Ag 31·75
Sheffield	—	—	15	—	—	—	7	—	18	Au 60
"Very Easy Melt" ...	—	—	28·5	—	—	—	—	—	5·5	Au 11·5 : Ag 54·5
Gold Solders, Handy & Harmon:										
18 Carat White:										
19 Carat Extra Hard ...	—	—	—	—	—	—	12	—	8	Au 80 (M.Pt. 845°C.)
16 Carat Hard	—	—	6·4	—	—	—	5	—	12	Au 66·6 : Ag 10 (M.Pt. 750° C.)
14 Carat Easy	—	—	5·7	—	—	—	6	—	15	Au 58·3 : Ag 15 (M.Pt. 700° C.)
18 Carat Green:										
14 Carat Easy	—	—	12	—	—	—	—	—	11·7	Au 58·3 : Ag 18 (M.Pt. 725° C.)
18 Carat Yellow:										
16 Carat Hard	—	—	15	—	—	—	—	—	3·4	Au 66·6 : Ag 15 (M.Pt. 795° C.)
14 Carat Easy	—	—	12	—	—	—	—	—	11·7	Au 58·3 : Ag 18 (M.Pt. 725° C.)
14 Carat White:										
12 Carat Hard	—	—	10	—	—	—	6	—	9	Au 50 : Ag 25 (M.Pt. 750° C.)
10 Carat Easy	—	—	8·3	—	—	—	5	—	15	Au 41·7 : Ag 30 (M.Pt. 695° C.)

Description of Alloy.	Alu-minium.	Chrom-ium.	Copper.	Iron.	Lead.	Mag-nesium.	Nickel.	Tin.	Zinc.	Miscellaneous.
Gold Solders, Handy & Harmon:										
14 Carat Green: [—Contd.										
10 Carat Easy	—	—	16·3	—	—	—	—	—	10	Au 41·7 : Ag 30 (M.Pt. 720° C.)
14 Carat Yellow:										
12 Carat Hard	—	—	22	—	—	—	—	—	3	Au 50 : Ag 25 (M.Pt. 765° C.)
10 Carat Easy	—	—	16·3	—	—	—	—	—	10	Au 41·7 : Ag 32 (M.Pt. 720° C.)
10 Carat White—8 Carat Hard	—	—	10	—	—	—	5	—	9·7	Au 33·3 : Ag 42 (M.Pt. 710° C.)
10 Carat Green—8 Carat Hard	—	—	30	—	—	—	—	—	16·7	Au 33·3 : Ag 20 (M.Pt. 760° C.)
10 Carat Yellow:										
8 Carat Hard	—	—	28	—	—	—	—	—	7·7	Au 33·3 : Ag 31·1 (M.Pt. 730° C.)
6 Carat Easy	—	—	20	—	—	—	—	—	10·3	Au 24·7 : Ag 45 (M.Pt. 700° C.)
Golds, Standard:										
22 Carat	—	—	4·17	—	—	—	—	—	—	Ag 4·17 : Au 91·66
22 Carat Dental, Dark ...	—	—	3·44	—	—	—	—	—	—	Ag 4·99 : Au 91·57
22 Carat Dental, Light ...	—	—	—	—	—	—	—	—	—	Ag 8·43 : Au 91·57
20 Carat	—	—	8·33	—	—	—	—	—	—	Ag 8·33 : Au 83·33
20 Carat	—	—	5·99	—	—	—	—	—	—	Ag 10·81 : Au 83·20
18 Carat	—	—	14·6	—	—	—	—	—	—	Ag 10·4 : Au 75
18 Carat	—	—	13·0	—	—	—	—	—	—	Ag 12·0 : Au 75
18 Carat	—	—	10·4	—	—	—	—	—	—	Ag 14·6 : Au 75
18 Carat Dental	—	—	5·99	—	—	—	—	—	—	Ag 19·13 : Au 74·88
18 Carat Special	—	—	5·00	—	—	—	—	—	—	Ag 20·0 : Au 75·0
18 Carat Red	—	—	20	—	—	—	—	—	—	Ag 5 : Au 75
18 Carat Yellow	—	—	10	—	—	—	—	—	—	Ag 15 : Au 75
18 Carat Green	—	—	2·5	—	—	—	—	—	—	Ag 22·5 : Au 75
18 Carat White	—	—	2·5	—	—	—	17·5	—	5	Au 75
16 Carat	—	—	26·6	—	—	—	—	—	—	Ag 6·6 : Au 66·6
16 Carat	—	—	22·22	—	—	—	—	—	—	Ag 11·12 : Au 66·66

PERCENTAGE COMPOSITION OF NON-FERROUS ALLOYS—(*continued*).

Description of Alloy.	Aluminium.	Chromium.	Copper.	Iron.	Lead.	Magnesium.	Nickel.	Tin.	Zinc.	Miscellaneous.
Golds, Standard—Contd.										
16 Carat	—	—	13·8	—	—	—	—	—	—	Ag 19·4 : Au 66·66
16 Carat	—	—	7·98	—	—	—	—	—	—	Ag 25·57 : Au 66·45
15 Carat	—	—	26·50	—	—	—	—	—	—	Ag 11·0 : Au 62·5
14 Carat	—	—	37·50	—	—	—	—	—	—	Ag 4·16 : Au 58·33
14 Carat Regular	—	—	28·34	—	—	—	—	—	—	Ag 13·33 : Au 58·33
14 Carat Spring	—	—	25·67	—	—	—	—	—	—	Ag 16·00 : Au 58·33
14 Carat	—	—	16·66	—	—	—	—	—	—	Ag 25·00 : Au 58·33
14 Carat Special	—	—	13·90	—	—	—	—	—	—	Ag 27·77 : Au 58·33
14 Carat Dental	—	—	11·94	—	—	—	—	—	—	Ag 30·03 : Au 58·03
14 Carat Red	—	—	39·6	—	—	—	—	—	—	Ag 2·1 : Au 58·3
14 Carat Yellow	—	—	29·2	—	—	—	—	—	4·2	Ag 8·3 : Au 58·3
14 Carat Green	—	—	4·2	—	—	—	—	—	—	Ag 37·5 : Au 58·3
14 Carat White	—	—	16·7	—	—	—	16·7	—	8·3	Au 58·3
12 Carat	—	—	35·42	—	—	—	—	—	—	Ag 14·58 : Au 50·00
10 Carat Regular	—	—	46·00	—	—	—	—	—	—	Ag 12·34 : Au 41·66
10 Carat	—	—	41·66	—	—	—	—	—	—	Ag 16·66 : Au 41·66
10 Carat Spring	—	—	38·34	—	—	—	—	—	—	Ag 20·00 : Au 41·66
10 Carat Red	—	—	55·4	—	—	—	—	—	—	Ag 2·9 : Au 41·7
10 Carat Yellow	—	—	40·8	—	—	—	—	—	5·8	Ag 11·7 : Au 41·7
10 Carat Green	—	—	35	—	—	—	—	—	17·5	Ag 5·8 : Au 41·7
10 Carat White	—	—	23·3	—	—	—	23·3	—	11·7	Au 41·7
8 Carat	—	—	46·70	—	—	—	—	—	—	Ag 20·00 : Au 33·30
Blue Gold	—	—	—	25	—	—	—	—	—	Au 75
,, ,, ...	—	—	—	33·3	—	—	—	—	—	Au 66·7
Dark Red Gold	—	—	50	—	—	—	—	—	—	Au 50
,, ,, ,, ...	—	—	75	—	—	—	—	—	—	Au 25
Deep Yellow Gold	—	—	10	—	—	—	—	—	—	Au 90
,, ,, ,, ...	—	—	22	—	—	—	—	—	—	Ag 25 : Au 53
Green Gold	—	—	—	—	—	—	—	—	—	Ag 25 : Au 75
,, ,, ...	—	—	—	—	—	—	—	—	—	Ag 16·6 : Au 75 : Cd 8·3
... ...	—	—	9·7	—	—	—	—	—	—	Ag 11·4 : Au 74·6 : Cd 4·3

Description of Alloy.	Aluminium.	Chromium.	Copper.	Iron.	Lead.	Magnesium.	Nickel.	Tin.	Zinc.	Miscellaneous.
Golds, Standard—Contd.										
Green Gold	—	—	—	—	—	—	—	—	—	Ag 12·5 : Au 75 : Cd 12·5
Grey Gold	—	—	—	5·7	—	—	—	—	—	Ag 8·6 : Au 85·7
,, ,, ...	—	—	—	16·6	—	—	—	—	—	Au 83·3
Pale Yellow Gold	—	—	—	—	—	—	—	—	—	Ag 8·3 : Au 91·6
,, ,, ,, ...	—	—	—	8·3	—	—	—	—	—	Au 91·6
Red Gold	—	—	25	—	—	—	—	—	—	Au 75
Standard Gold, British ...	—	—	8·33	—	—	—	—	—	—	Au 91·66
,, ,, U.S.A. ...	—	—	10	—	—	—	—	—	—	Au 90
White Gold	—	—	2–6	—	—	—	15–18	—	4–6	Au 75 : Mn Trace
,, ,, ...	—	—	2·25	—	—	—	17·75	—	5	Au 75
,, ,, ...	—	—	—	—	—	—	10–18	—	2–9	Au 75–85
,, ,, ...	—	—	—	—	—	—	—	—	—	Au 90 : Pd 10
,, ,, (18 ct.) ...	—	—	3·5	—	—	—	16·5	—	5	Au 75
,, ,, (18 ct.) ...	—	—	1	—	—	—	—	—	5·5	Ag 18·5 : Au 75
,, ,, (14 ct.) ...	—	—	25·5	—	—	—	12·3	—	3·2	Au 59
,, ,, (14 ct.) ...	—	—	17	—	—	—	17	—	7·6	Au 58·3
,, ,, (12 ct.) ...	—	—	19·9	—	—	—	20	—	10	Mn 0·1 : Au 50
,, ,, (10 ct.) ...	—	—	25	—	—	—	25	—	8·3	Au 41·6
,, ,, (9 ct.)	—	—	27·6	—	—	—	17·5	—	17·4	Au 37·5
White Gold	—	—	—	—	—	—	—	—	—	Au 90 : Pt 10
,, ,, (Belais) ...	—	—	—	—	—	—	8–18	—	4–14	Au 75–85 (less Zn than Ni)
,, ,, ,, ...	—	—	—	—	—	—	10–18	—	2–9	Au 75–85 : Pt 0·05–0·5
,, ,, ,, ...	—	—	—	—	—	—	10–18	—	2–9	Au 75–85 : Mn 0·5–2
,, ,, (Carter) ...	—	—	—	—	—	—	16·7	—	—	Au 83·3
,, ,, (Dufour) ...	—	—	—	—	—	—	—	—	—	Au 75 : Pd 21·5 : Pt 4·5
White Golds, Industrial :										
18 Carat	—	—	3·5	—	—	—	16·5	—	5·0	Au 75·0
12 Carat	—	—	19·9	—	—	—	20·0	—	10·0	Au 50·0 : Mn 0·1
9 Carat	—	—	27·6	—	—	—	17·5	—	17·4	Au 37·5

PERCENTAGE COMPOSITION OF NON-FERROUS ALLOYS—(*continued*).

Description of Alloy.	Alu-minium.	Chrom-ium.	Copper.	Iron.	Lead.	Mag-nesium.	Nickel.	Tin.	Zinc.	Miscellaneous.
Golds, Standard—Contd.										
White Gold (Koch)	—	—	—	—	—	—	3·3–24·75	—	—	Au 75 (min.) : Mn 0·25–5
,, ,, (Liebknecht) ...	—	—	1	—	—	—	13·9	—	5	Au 80 : Pd 0·1
,, ,, (Mourey) ...	—	—	—	—	—	—	—	—	—	Ag 35 : Au 50 : Pd 15
,, ,, (Pechko) ...	—	—	—	—	—	—	—	—	—	Au 60 : Pd 30 : Pt 10 : Ir 0·1–2·0
,, ,, (Shiga)... ...	—	5–20	—	—	—	—	5–20	—	—	Au 90–60
Yellow Gold...	—	—	22	—	—	—	—	—	—	Ag 25 : Au 53
Government Bronze (American)	—	—	86–89	—	—	—	—	8–11	1–3	—
Graney Bronze	—	—	75·8	—	15·0	—	—	9·2	—	—
Graphite Metal (Bearing Alloy)	—	—	—	—	67·7	—	—	14·6	—	Sb 17·7
,, ,, ,, ,,	—	—	—	—	68	—	—	15	—	Sb 17
Guillaume's Metal	—	—	64·3	—	—	—	—	—	—	Bi 35·7
Guinea Gold	—	—	88	—	—	—	—	—	12	—
Gunmetal :*										
Bars, Hard-Rolled (D.T.D.155)	—	—	Bal.	—	—	—	—	9·75–10·25	1·75–2·25	Tot. Imp. 0·25 (max.)
Castings (Aircraft Spec. 2B2)	—	—	Bal.	—	0·50 (max.)	—	—	9·75–10·25	1·75–2·25	Tot. Oth. Imp. 0·15 (max.)
,, (B.S.S. No. 383) ...	—	—	Bal.	—	0·50 (max.)	—	0·20 (max.)	9·75–10·25	1·75–2·25	Oth. Imp. (excl. O) 0·15 (max.)
,, (General)	—	—	90–85	—	0–3	—	—	8–12	2–4	—
,, (H.P. Air Ser. Fittgs.)	—	—	Bal.	—	0·5 (max.)	—	—	10–12	2 (max.)	—
,, (Other than Air Ser.)	—	—	Bal.	—	0·5 (max.)	—	—	9·75–10·25	2 (max.)	—
" Commercial " (Admty. Elec.)	—	—	85	—	5	—	—	5	5	—
Ordnance :										
Chinese (Old)	—	—	71·16	1·40	—	—	—	—	27·36	—
,, (1901)	—	—	93·2	1·72	—	—	—	5·05	—	—
Cochin China	—	—	77·18	1·16	13·22	—	—	3·42	5·02	—

* This term denoted originally the approximately 90 : 10 copper-tin alloy formerly used for ordnance (of which examples are cited), alloys now superseded for this purpose by steel. It is now commonly applied to the 88 copper : 10 tin : 2 zinc bronze, as cited, but also to other bronzes, which may contain less tin, more zinc, and also lead. See also under *Bronze*.

Description of Alloy.	Aluminium.	Chromium.	Copper.	Iron.	Lead.	Magnesium.	Nickel.	Tin.	Zinc.	Miscellaneous.
Gunmetal—Contd.										
Cochin China	—	—	93·19	1·38	—	—	—	5·43	—	—
English (Modern) ...	—	—	89·3	—	—	—	—	10·7	—	—
,, ,, ...	—	—	91·74	—	—	—	—	8·26	—	—
,, (8 lb. Guns) ...	—	—	91·66	—	—	—	—	8·33	—	—
French (Modern)	—	—	90·1	—	—	—	—	9·9	—	—
,, (Old)	—	—	89·44	—	0·16	—	—	8·91	1·39	—
Prussian (Modern) ...	—	—	90·9	—	—	—	—	9·1	—	—
Russian (Modern) ...	—	—	90·8	—	—	—	—	9·2	—	—
,, (1813)	—	—	88·61	0·69	—	—	—	10·7	—	—
Swiss (Lucerne)	—	—	88·93	0·11	0·06	—	—	10·38	0·42	—
Turkish (1464)	—	—	95·2	—	—	—	—	4·71	—	—
,, (1907)	—	—	90·9	0·2	—	—	—	8·8	—	—
U.S.A.	—	—	90	—	—	—	—	10	—	—
Gurney's Bronze	—	—	75·8	—	—	—	—	9·2	15·0	—
Guthrie's Fusible Alloy ...	—	—	—	—	19·36	—	—	19·97	—	Bi 47·38 : Cd 13·29
Haas Alloy	Bal.	—	4·5	—	—	—	—	—	—	Mn 0·75 : Si 1·0
Halberhand Alloy	—	—	87	—	—	—	—	—	13	—
Hamilton Metal	—	—	66·7	—	—	—	—	—	33·3	—
Hammonia Metal	—	—	3·25	—	—	—	—	64·5	32·25	—
Hard Head (Spiauter) ...	—	—	2	—	—	—	—	90	—	Sb 8
" Hard Lead "	—	—	0·5	—	80	—	—	7·5	—	Sb 12
,, ,, ...	—	—	—	—	55–80	—	—	1–20	—	Sb 15–25
,, ,, ...	—	—	—	—	78	—	—	—	—	Sb 22
,, ,, (Cast)	—	—	1	—	85	—	—	—	—	Sb 14
" Hard Zinc "	—	—	0·13	5·3	2·4	—	—	—	91·9	—
Hardened Lead B (Bearing Alloy)	—	—	—	—	98	—	—	—	—	Na 0·65 : K 0·3 : Ca 0·75 : Li 0·4
Hardite A (Heat-Resisting) ...	—	14–16	—	Bal.	—	—	65	—	—	Mn 1–2 : Si 1–4
,, B ,, ,, ...	—	16–18	—	Bal.	—	—	35	—	—	Mn 1–2 : Si 1–4
,, C ,, ,, ...	—	—	—	—	—	—	93	—	—	Mn 2 : Si 5
,, S ,, ,, ...	—	—	—	Bal.	—	—	65	—	—	Mn 2 : Si 5–7
,, X ,, ,, ...	—	10–13	—	—	—	—	82–86	—	—	Mn 2 : Si 2–4
Hardware Bronze	—	—	89	—	2	—	1	—	8	—

PERCENTAGE COMPOSITION OF NON-FERROUS ALLOYS—(*continued*).

Description of Alloy.	Aluminium.	Chromium.	Copper.	Iron.	Lead.	Magnesium.	Nickel.	Tin.	Zinc.	Miscellaneous.
Harlington Bronze	—	—	55·7	0·58	—	—	—	0·97	42·7	—
Harmonia Bronze	—	—	57	1·8	0·4	—	—	—	40	—
,, ,, ...	0·86	—	55·7	1·29	0·46	—	—	0·5	41·2	—
Hastelloy (Corr.-Res. Alloy) ...	—	—	—	20	—	—	58	—	—	Mo 20 : Mn 2
,, C ,, ,, ,, ...	—	14	—	6	—	—	58	—	—	Mo 17 : W 5
,, D ,, ,, ,, ...	2	—	3	—	—	—	85	—	—	Si 10
,, ,, ,, ,, ,, ...	1·3	—	3	—	—	—	90	—	—	Si 5·7
,, ,, ,, ,, ,, ...	—	—	3	—	—	—	87	—	—	Si 10
Hawk Brand White Met. (Brg. Al.)	—	—	0·48	Tr.	38·48	—	—	53·20	—	Sb 7·87
Haystellite (Tungsn. Carb. Tools)	—	—	—	—	—	—	—	—	—	—
Heckman Copper	—	—	86·1	—	—	—	0·8	—	0·3	Mn 12·3
Heddur (Rollg. & Forg. Al.–H.T.)	94·1	—	4·25	—	—	0·55	—	—	—	Mn 0·6 : Si 0·5
Hercules Bronze	2·5	—	85·5	—	—	—	—	10	2	—
Hercules Metal	2·5	—	54	7·5	—	—	—	—	36	—
Herculoy (Cast & Wrt., Cor.-Res.)	—	—	Bal.	—	—	—	—	0·5	1·5	Si 3·25
,, ,, ,, ,, ,, ,,	—	—	96·25	—	—	—	—	0·5	—	Si 3–3·25
Heusler's Magnetic Alloy ...	11·1	—	66·5	—	—	—	—	—	—	Mn 22·4
,, ,, ,, ...	10	—	68	—	4	—	—	—	—	Mn 18
,, ,, ,, ...	13	—	61	—	—	—	—	—	—	Mn 26
,, ,, ,, ...	25	—	50	—	—	—	—	—	—	Mn 25
Hiduminium :										
R.R. 50 (Cast—H.T.) ...	Bal.	—	1·3	1·2	—	0·1	0·9	—	—	Si 2·25 : Ti 0·18
R.R. 50 (D.T.D. 133B—Not pistons)	Bal.	—	0·8–2·0	0·8–1·4	—	0·05–0·30	0·8–1·75	—	—	Si 1·5–2·8 : Ti 0·05–0·25
R.R. 50	93·9	—	1·3	1·0	—	0·1	1·3	—	—	Si 2·2 : Ti 0·2
R.R. 53 (Cast—H.T.—for pistons)	Bal.	—	2·2	1·2	—	1·5	1·3	—	—	Si 1·25 : Ti 0·07
R.R. 53 (D.T.D. 131A & 238)	Bal.	—	1·5–2·5	1·2–1·5	—	1·4–1·8	0·5–2·0	—	—	Si 2·0 (max.) : Ti 0·02–0·12
R.R. 53 (Permt. Mould Castgs.)	92·1	—	2·2	1·4	—	1·6	1·3	—	—	Si 1·3 : Ti 0·1
R.R. 53B (Cast—H.T.—Not pistons)	Bal.	—	2·0–3·0	1·2–1·5	—	0·6–1·0	1·0–2·0	—	—	Si 0·7–1·5 : Imp. 0·3 (max.)
,, ,, ,, ,,	Bal.	—	2·5	1·2	—	0·8	1·5	—	—	Si 1·2
R.R. 53C (Cast—H.T.—Not pistons)	Bal.	—	1·15	1·1	—	0·5	0·8	—	—	Si 2·5 : Ti 0·16

Description of Alloy.	Aluminium.	Chromium.	Copper.	Iron.	Lead.	Magnesium.	Nickel.	Tin.	Zinc.	Miscellaneous.
Hiduminium—Contd.										
R.R. 53C (D.T.D. 309 & 313)	Bal.	—	0·8–2·0	0·8–1·4	—	0·3–0·8	0·5–1·5	—	—	Si 2·0–3·0 : Ti 0·3 (max.)
R.R. 56 (Rolg. & Frg. Al.,H.T.)	Bal.	—	2·0	1·2	—	0·8	1·3	—	—	Si 0·6 : Ti 0·07
,, ,, ,, ,, ,, ,, ,,	93·7	—	2·0	1·40	—	0·80	1·30	—	—	Si 0·70 : Ti 0·10
,, ,, ,, ,, ,, ,, ,,	Bal.	—	2·0	1·4	—	0·8	1·3	—	—	Si 0·7 : Ti 0·3
R.R. 56 (D.T.D. 179 & 184)	Bal.	—	1·5–3·0	0·8–1·4	—	0·4–1·0	0·5–1·5	—	—	Si 1·0 (max.) : Ti 0·02–0·12
R.R. 56 (D.T.D. 206 & 342)	Bal.	—	1·5–2·5	0·8–1·3	—	0·4–1·0	0·5–1·5	—	—	Si 1·0 (max.) : Ti 0·12 (max.)
R.R. 56 (D.T.D. 220A) ...	Bal.	—	1·5–2·5	0·8–1·5	—	0·4–1·0	0·5–1·5	—	—	Si 1·0 (max.) : Ti 0·12 (max.)
R.R. 56 NS (Forgs., Softened)	Bal.	—	1·5–2·5	0·8–1·5	—	0·6–1·2	0·5–1·5	—	—	Si 1·0 (max.)
R.R. 56 NS (D.T.D. 246A) ...	Bal.	—	1·5–2·5	0·8–1·5	—	0·6–1·2	0·5–1·5	—	—	Si 1·0 (max.) : Ti 0·12 (max.)
R.R. 56 NS	Bal.	—	1·5–2·5	0·8–1·5	—	0·6–1·2	0·5–1·5	—	—	Si 1·0 (max.) : Ti 0·12 (max.)
R.R. 59 (Rolg. & Frg. Al.,H.T.)	92·7	—	2·3	1·4	—	1·6	1·3	—	—	Si 0·5 : Ti 0·1
,, ,, ,, ,, ,, ,, ,,	Bal.	—	2·2	1·2	—	1·5	1·3	—	—	Si 0·85 : Ti 0·07
R.R. 59 (Round Bar) ...	Bal.	—	2·35	1·15	—	1·49	1·32	—	—	Si 0·82 : Ti 0·06
R.R. 66 (Rollg. & Forg. Al.)	94·5	—	—	—	—	5·0	—	—	—	Mn 0·5
R.R. 66 (Sheets & Strips—D.T.D. Spec.)	Bal.	—	1·0 (max.)	1·5 (max.)	—	3·0–6·0	1·5 (max.)	—	—	Mn 0·75 (max.) : Si 0·5 (max.)
R.R. 72 (Rolg. & Frg. Al.,H.T.)	94·0	—	4·0	—	—	1·2	—	—	—	Mn 0·8
R.R. 72 (D.T.D. Specns.) ...	Bal.	—	3·5–4·8	0·4 (max.)	—	0·8–1·8	—	—	—	Mn 0·3–1·5 : Si 0·5 (max.)
R.R. 75 (Rolg. & Frg. Al.,H.T.)	97·6	—	2·0	—	—	0·4	—	—	—	—
R.R. 75 (Rivets—D.T.D. 327)	Bal.	—	1·5–3·0	0·7 (max.)	—	0·2–0·5	0·7 (max.)	—	—	Mn 0·5 (max.) : Si 0·7 (max.) : Ti 0·3 (max.)
R.R. 77 (Rolg. & Frg. Al.,H.T.)	88·9	—	2·3	—	—	2·5	1·0	—	5·0	Ti 0·3
R.R. 77 (D.T.D. 363) ...	Bal.	—	1·5–3·0	0·6 (max.)	—	2·0–4·0	1·0 (max.)	—	4·0–6·0	Si 0·6 (max.) : Ti 0·3 (max.)
S 12 (Rollg. & Forg. Al., H.T.)	84·8	—	1·0	—	—	1·2	1·0	—	—	Si 12·0
S 12 (D.T.D. 324—Pistons,&c.)	Bal.	—	0·7–1·3	—	—	0·8–1·5	0·7–1·3	—	—	Si 11·5–13·0 : Imp. 0·6 (max.)

PERCENTAGE COMPOSITION OF NON-FERROUS ALLOYS—(*continued*).

Description of Alloy.	Aluminium.	Chromium.	Copper.	Iron.	Lead.	Magnesium.	Nickel.	Tin.	Zinc.	Miscellaneous.
Hipernick (High Perm. Al.—Transformer Cores, etc.)...	—	—	—	50	—	—	50	—	—	—
,, ,, ,, ,,	—	—	—	40	—	—	60	—	—	—
Holfos Bronze (High-Duty Worm Gears, etc.)	—	—	Bal.	—	0·25 (max.)	—	—	11–12	Nil	P 0·1–0·2
Holfos Spuncast Bronze (Brg.Al.)	—	—	87·50	Nil	0·15	—	Nil	11·5	Nil	P 0·90
Holfos Spuncast Special Hard Bronze (Bushes, etc.) ...	—	—	77·65	Trace	0·12	—	Trace	22·22	Trace	P 0·03
Honda Alloys (Perm. Magnets)	—	—	—	Bal.	—	—	10–25	—	—	Co 15–36 : Ti 8–25
Hooker's Brass	—	—	61	—	2	—	—	—	37	—
Houghton's Shaving Packing (Piston Rod Pkg.) ...	—	—	Trace	—	94·02	—	—	5·97	—	—
Hoyle's Metal	—	—	—	—	42	—	—	4·6	—	Sb 12
Hoyt No. 11 (Big-End Brgs.,etc.)	—	—	2·13	—	0·04	—	—	91·01	—	Sb 6·82
Huber's Alloy (Pyrophoric) ...	—	—	—	—	—	15	—	—	—	Ce 85
Huron (Castings)	Bal.	—	6·6	—	—	0·5	1·25	—	—	Co 0·25 : Mn + Sn + Cd 0·5
Huron A (Rolled)	Bal.	0·1	3·5	—	—	0·5	—	—	—	Mn 0·6
Huron B (Rolled)	Bal.	0·1	4·0	—	—	0·5	—	—	—	Mn 0·6
Huron D (Rolled)	Bal.	0·6	4·0	—	—	0·5	—	—	—	—
Hyblum (Wrt., Cor. Res., H.T.)	Bal.	0·07	0·24	0·55	—	0·02	0·43	—	—	Mn 0·03 : Si 0·19
,, (Rolled)	Bal.	Trace	0·63	1·00	—	0·3	1·06	—	—	Si 0·27
Hydronalium 7 (Rolg. & Frg. Al.)	92·5	—	—	—	—	7·0	—	—	—	Mn 0·5
,, 71 (Cast—not H.T.)	92·0	—	—	—	—	7·0	—	—	—	Si 1·0
,, 9 (Free Mach'g Al.)	Bal.	—	—	0·2	—	9	—	—	—	Mn 0·32 : Si 0·08
Hydrone	—	—	—	—	67	—	—	—	—	Sb 33
Hyman	—	—	16·7	—	—	—	8·3	—	16·7	Ag 58·3
Hyperm (High Perm. Al.—Transformer Cores, etc.) ...	—	—	—	50	—	—	50	—	—	—
Hypersilicon(Low-Expn.Pisn.Al.)	76·0	—	2·0	—	—	—	—	—	—	Si 22·0
Hy-Ten-Sil Manganese Bronze	4·7	—	67·6	2	—	—	—	—	22·4	Mn 3·2
Hytensyl Bronze (Non-Corr. Al.)	10	—	60	6	—	—	—	—	19	Mn 5
Ia-Ia (Resistance Alloy) ...	—	—	60	—	—	—	40	—	—	—
Ideal (Resistance Alloy) ...	0·66	—	53·4	0·66	—	—	45	—	—	Mn 0·45

Description of Alloy.	Aluminium.	Chromium.	Copper.	Iron.	Lead.	Magnesium.	Nickel.	Tin.	Zinc.	Miscellaneous.
Ideal (Resistance Alloy) ...	—	—	58	1	—	—	40	—	—	Mn 1
Idronal 51 (Corr.-Res. Alloy)...	94	—	—	—	—	5	—	—	—	Si 1
,, ,, ,, ,, ,, ...	93·07	—	0·04	0·34	—	5·20	—	—	—	Si 1·35
,, 7 ,, ,, ,, ...	93	—	—	—	—	7	—	—	—	—
Idronalio—Ital. Trade Mark for Hydronalium	—	—	—	—	—	—	—	—	—	—
Igedur—Duralumin of I.G. Farbenindustrie	—	—	—	—	—	—	—	—	—	—
Iitaka Metal (Wrt., Corr.-Res., H.T.)	5–6	—	Bal.	1–3	—	—	3–8	—	—	—
,, ,, ,, ,,	7·1	—	87·6	0·34	—	—	5·3	—	—	—
Illium (Cast Corr.-Res. Al.) ...	1	21	6·5	1	—	—	62·5	—	—	Mn 1 : W 2 : Mo 5
,, ,, ,, ,, ,, ...	1–2	21	6·5	1–2	—	—	61	—	—	Mn 1–2 : W 1–2 : Mo 5 : Si 1–2
,, ,, ,, ,, ,, ...	—	21·80	7·95	3·10	—	—	58·40	—	—	Mn 1·72 : W 2·38 : Mo 3·52 : Si 0·70 : C 0·32
,, ,, ,, ,, ,, ...	1·0	21·0	6·5	1·0	—	—	60·5–62·5	—	—	Mn 1·0 : W 2·0 : Mo 4·7–5·0 : Si 1·0 : Ti, B and C—Traces
,, ,, ,, ,, ,, ...	—	24	8	—	—	—	56	—	—	Mn 1·5 : W 2 : Mo 4 : Si 1 : C 2
Illium G (Cast Corr.-Res. Al.)...	—	24	8	4	—	—	56	—	—	Mn 2 : W 2 : Mo 4
Imita Gold	10·3	—	89	0·33	—	—	0·25	0·23	—	Mn 0·2
Immadium :										
I (Cast—Hi. Ten. Corr.-Res.)	0·42	—	54·87	1·61	0·20	—	Trace	0·91	42·06	Mn 0·09
II ,, ,, ,, ,, ,,	0·32	—	55·86	1·50	0·17	—	Nil	0·97	40·98	Mn 0·07 : As 0·06
II (Wrt.—Hi. Ten. Corr.-Res.)	3·0–3·25	—	65–67	1·5–1·75	—	—	—	0·8–1·0	Bal.	Mn 0·2–0·4
V ,, ,, ,, ,, ,,	4·5–5·25	—	66·5–68·5	1·5–1·75	—	—	—	—	Bal.	Mn 0·2–0·4
VI (Wrt. Super-Strength Bro.)	5·5–6·25	—	69·0–71·0	1·75–2·25	—	—	—	—	Bal.	Mn 2·75–3·25
Imperial Metal...	—	—	80	—	—	—	20	—	—	—
Inalium	Bal.	—	—	—	—	0·80	—	—	—	Cd 2·0 : Si 0·40
Inconel (Heat- & Corr.-Res. Al.)	—	14	—	6	—	—	80	—	—	—
,, ,, ,, ,, ,, ,,	—	12–14	—	6	—	—	Bal.	—	—	—

PERCENTAGE COMPOSITION OF NON-FERROUS ALLOYS—(*continued*).

Description of Alloy.	Alu-minium.	Chrom-ium.	Copper.	Iron.	Lead.	Mag-nesium.	Nickel	Tin.	Zinc.	Miscellaneous.
Inconel (Heat- & Corr.-Res. Al.)	—	12–14	—	Bal.	—	—	80	—	—	—
,, ,, ,, ,, ,, ,,	—	13	—	7	—	—	79	—	—	—
,, ,, ,, ,, ,, ,,	—	13·00	0·20	6·50	—	—	(Ni+Co) 79·50	—	—	Mn 0·25 : Si 0·25 : C 0·08 : S 0·01
,, ,, ,, ,, ,, ,,	—	13·01	0·10	5·48	—	—	(Ni+Co) 81·04	—	—	C 0·06 : S 0·008 : Si 0·17 : Mn 0·11
Inconel (Sheets and Strips—D.T.D. 328)	—	12·0–15·0	0·7 (max.)	10·0 (max.)	—	—	75·0–85·0	—	—	C 0·2 (max.) : S 0·03 (max.) : Si 0·5 (max.) : Mn 1·0 (max.)
Instrument Bronze	—	—	82	—	—	—	—	13	5	—
,, ,, ...	—	—	82·1	—	—	—	—	12·8	5·1	—
Iridium	—	—	1·25	—	—	—	—	15·75	83	Sb Trace
,, ...	—	—	1·12	—	—	—	—	21·63	77·25	Sb Trace
Iron Brass	—	—	59	2	—	—	—	—	39	—
,, ,, ...	—	—	59·32	1·65	0·15	—	Nil	Nil	38·66	As 0·26
Iserlohn, Cast	—	—	63·7	—	0·3	—	—	2·5	33·5	—
Ishikawa Nickel Bronze (Propeller Castings, etc.) ...	2	—	87	—	—	—	10	—	1	—
Isoperm (Const. Permeability Al.)	—	—	—	Bal.	—	—	40–55	—	—	—
,, ,, ,, ,,	3–4	—	—	Bal.	—	—	40–60	—	—	—
,, ,, ,, ,,	—	—	9–15	Bal.	—	—	36–50	—	—	—
JB 38A (Sheets—D.T.D. 263 and 267)	—	—	85–95	0·5 (max.)	—	—	—	—	Bal.	Si 1–2 : Mn 1·0 (max.)
JB 38A (Tubes—D.T.D. 307 and 312)	—	—	85–97	0·5 (max.)	—	—	—	—	Bal.	Si 1·0–3·5 : Mn 1·5 (max.)
Jacana Metal	—	—	—	—	70	—	—	10	—	Sb 20
Jackson's Alloy (Buttons) ...	—	—	63·88	—	—	—	—	5·55	30·55	—
,, ,, ,, ...	—	—	63·01	—	—	—	—	1·39	35·61	—
Jacoby Metal (Die-Castings) ...	—	—	—	—	85	—	—	5	—	Sb 10
,, ,, (Railway Bearings)	—	—	5	—	—	—	—	85	—	Sb 10
Japanese Art Metal	—	—	82·70	—	9·90	—	—	4·70	1·80	—
Japanese Brass (Sin-chu) ...	—	—	66·7	—	—	—	—	—	33·3	—
Japanese Silver	50	—	—	—	—	—	—	—	—	Ag 50

Description of Alloy.	Alu-minium.	Chrom-ium.	Copper.	Iron.	Lead.	Mag-nesium.	Nickel.	Tin.	Zinc.	Miscellaneous.
Jeweller's Metal	—	—	91·5	—	—	—	—	2	6·5	—
,, ,, ...	—	—	90	—	—	—	—	—	10	—
,, ,, ...	—	—	83	—	—	—	—	—	17	—
,, ,, ...	—	—	88	—	—	—	—	0·75	11·25	—
,, ,, ...	—	—	87·5	—	—	—	—	0·5	12	—
,, ,, ...	—	—	91	—	—	—	—	1·5	7·5	—
Justite	—	—	64·36	—	—	—	35·82	—	—	—
K 42B (Heat- & Corr.-Res. Al.)	—	19	—	7·5	—	—	46	—	—	Co 25 : Ti 2·5
K.S. Alloy (Permanent Magnets)	—	—	—	42	—	—	16	—	—	Co 30 : Ti 12
K.S. 13 (Bearing Alloy) ...	Bal.	—	—	—	—	—	—	—	—	Sb 6–8
K.S. 245 (German piston alloy)	78·5	—	4·5	—	—	0·7	1·5	—	—	Si 14 : Mn 0·8
K.S. 280 (Low-Expan. piston Al.)	72·6	—	1·5	—	—	0·5	1·5	—	—	Si 22 : Mn 0·7 : Co 1·2
K.S. 280 (Bearing Alloy) ...	Bal.	—	1·5	—	—	0·5	1·5	—	—	Si 21–22 : Mn 0·6 : Co 1·2
K.S. Seewasser (Cast Corr.-Res. Al.)	95·0	—	—	—	—	2·3	—	—	—	Mn 2·5 : Sb 0·2
,, ,, ,, ,,	93·5	—	—	—	—	3·0	—	—	—	Mn 3·0 : Sb 0·5
,, ,, ,, ,,	94	—	—	—	—	2·5	—	—	—	Mn 3·0 : Sb 0·5
,, ,, ,, ,,	95·7	—	—	—	—	2·0	—	—	—	Mn 1·4 : Sb 0·2 : Si 0·7
K.S. Seewasser (Wrought Corr.-Res. Al.)	Bal.	—	—	—	—	1·5	—	—	—	Mn 1·5 : Sb 1 (max.) : Si 0·7
Karakane (Japanese Bronze—Bells, etc.)	—	—	71·42	—	14·3	—	—	14·2	—	—
,, ,, ,, ,,	—	—	70	—	8	—	—	19	3	—
,, ,, ,, ,,	—	—	68·95	—	10·35	—	—	17·25	3·45	—
,, ,, ,, ,,	—	—	64	3	—	—	—	24	9	—
,, ,, ,, ,,	—	—	62·5	3·1	—	—	—	25	9·4	—
,, ,, ,, ,,	—	—	61	3	12	—	—	18	6	—
,, ,, ,, ,,	—	—	60·5	3	12	—	—	18·5	6	—
Karma (Resistance Alloy) ...	—	20	—	—	—	—	80	—	—	—
Keene's Alloy	0·5	—	75	1·5	—	—	16	2·8	2·3	Co 2·0
Kelmet Bronze	—	—	67·8–70·4	—	22·7–25·5	—	—	6·4–6·6	Trace	—
Kemler	15	—	9	—	—	—	—	—	76	—

PERCENTAGE COMPOSITION OF NON-FERROUS ALLOYS—(*continued*).

Description of Alloy.	Aluminium.	Chromium.	Copper.	Iron.	Lead.	Magnesium.	Nickel.	Tin.	Zinc.	Miscellaneous.
Kinghorn Metal	—	—	58·5	1·14	—	—	—	0·96	39·3	—
Kneiss Metal	—	—	—	—	25	—	—	25	50	—
,, ,, ...	—	—	3	—	42	—	—	15	40	—
Koltchougalumin	93·5	—	4·5	—	—	0·5	0·3	—	—	Mn 0·6
Konal (or Konel) (Heat- and Corr.-Res. Al.)	—	—	—	7·5	—	—	72·5	—	—	Co 17 : Ti 2·5 : Si 0·5
,, ,, ,, ,,	—	—	—	6	—	—	73·5	—	—	Co 18 : Ti 2·5
,, ,, ,, ,,	—	—	—	7·5	—	—	73	—	—	Co 17 : Ti 2·5
,, ,, ,, ,,	—	—	—	7·4	—	—	70·0	—	—	Co 19·5 : Ti 2·8
Konel 2948 (Springs for High Temp. Use)	—	19	—	7·5	—	—	46	—	—	Co 25 : Ti 2·5
Kovar (Expansion as Hard Glass)	—	—	—	Bal.	—	—	23·6	—	—	Co 29·6 : Mn 0·81
,, ,, ,, ,, ,,	—	—	—	Bal.	—	—	29·6	—	—	Co 17·4 : Mn 0·64
,, ,, ,, ,, ,,	—	—	—	Bal.	—	—	23–30	—	—	Co 30–17 : Mn 0·6–0·8
Kromax (Resistance Alloy) ...	—	20	—	—	—	—	80	—	—	—
Kromore (Resistance Alloy) ...	—	15	—	—	—	—	85	—	—	—
Kunial A (Wrt. Al.—age hard'd)	2·5	—	84	—	—	—	13·5	—	—	—
Kunial B (Wrt. Alloy, aged, springs, etc.)	1·5	—	92·5	—	—	—	6·0	—	—	—
,, ,, ,, ,,	1·05–1·84	—	91·75–92·88	—	—	—	5·80–6·25	—	—	—
L2R Alloy (Duralumin) ...	Bal.	—	3·5–4·0	Trace	—	0·5	—	—	—	Mn 0·5–1·0 : Si Trace
3L5 (Gen. Purp. Castg. Alloy)...	Bal.	—	2·5–3·0	0·80 (max.)	0·10 (max.)	—	—	—	12·5–14·5	Si 0·70 (max.) : Ti 0·20 (max.)
2L8 ,, ,, ,, ,, ...	Bal.	—	11–13	0·80 (max.)	0·10 (max.)	—	—	—	0·10 (max.)	Si 0·70 (max.) : Ti 0·20 (max.)
4L11 ,, ,, ,, ,, ...	Bal.	—	6–8	0·80 (max.)	0·10 (max.)	—	—	1·0 (max.)	0·10 (max.)	Si 0·70 (max.) : Ti 0·20 (max.)
2L24 (Y-Alloy, cast)	Bal.	—	3·5–4·5	0·60 (max.)	0·05 (max.)	1·2–1·7	1·8–2·3	—	—	Si 0·60 (max.) : Si + Fe 1·00 (max.) : Sn + Zn 0·10 (max.) : Ti 0·20 (max.)

Description of Alloy.	Alu-minium.	Chrom-ium.	Copper.	Iron.	Lead.	Mag-nesium.	Nickel.	Tin.	Zinc.	Miscellaneous.
LM (Rollg. & Forg. Al.—H.T.)	93·75	—	4·75	—	—	—	—	—	—	Mn 0·75 : Si 0·75
Lancashire Brass	—	—	73	—	2	—	—	—	25	—
Lautal (Cast and Wrt.)—original	94	—	4	—	—	—	—	—	—	Si 2
,, ,, ,, ,, ,,	Bal.	—	4·21	0·26	—	—	—	—	—	Si 2·12
,, ,, ,, ,, ,,	Bal.	—	4·25	0·46	—	—	—	—	—	Si 2·22
,, (Rolg. & Frg. Al.—H.T.)	94·6	—	5·0	—	—	—	—	—	—	Si 0·4
,, (Wrought Alloy) ...	Bal.	—	4·5–6	—	—	—	—	—	—	Si 0·2–0·5 : Mn 0·4–0·6
,, ,, ,, ...	Bal.	—	4·62	0·45	—	0·29	—	—	—	Si 0·74 : Mn 0·56
,, VLW	94	—	4	—	—	—	—	—	—	Si 2
Laveyssiere Bronze	—	—	61	—	—	—	—	1	38	—
Lead-Alkali Metal Alloys :										
Bearing Alloy	—	—	—	—	Bal.	—	—	—	—	Ba 2·00 : Ca 0·77
,, ,, ...	—	—	—	—	Bal.	—	—	—	—	Ba 1·20 : Ca 0·77
,, ,, ...	—	—	—	—	Bal.	—	—	—	—	Ba 0·40 : Ca 0·77
,, ,, ...	—	—	—	—	Bal.	—	—	—	—	Ba 1·00 : Ca 0·50
,, ,, ...	—	—	—	—	Bal.	—	—	—	—	Ba 1·00 : Ca 0·50 : Hg 0·20
,, ,, ...	—	—	1·37	—	Bal.	—	—	—	—	Ba 1·1 : Ca 1·9 : Sr 1·0 : Na 0·1
Lead-Antimony Alloys :										
Acid-Resisting	—	—	—	—	90	—	—	—	—	Sb 10
,, ,, ...	—	—	—	—	87	—	—	—	—	Sb 13
,, ,, ...	—	—	—	—	85	—	—	—	—	Sb 15
,, ,, ...	—	—	0·25	—	87·49	—	Trace	0·23	Trace	Sb 11·84
Battery Plates	—	—	—	—	94	—	—	—	—	Sb 6
Cable-Sheathing	—	—	—	—	99·5	—	—	—	—	Sb 0·5
,, ,, ...	—	—	—	—	99·2	—	—	—	—	Sb 0·8
,, ,, ...	—	—	—	—	99	—	—	—	—	Sb 1
,, ,, ...	—	—	—	0·18	97·25	—	—	—	—	Sb 2·67
Car-Box Metal	—	—	—	0·6	84·33	—	—	—	Trace	Sb 14·38
Centrifugal Blower Frame ...	—	—	—	—	83	—	—	—	—	Sb 17
Conn. Rod Big-End Brg. (Gas Engine)	—	—	—	—	82	—	—	—	—	Sb 18
Loco. Ball-Joint Pkg. ...	—	—	—	—	92	—	—	—	—	Sb 8
Valves, etc., for Chem. Plant	—	—	—	—	Bal.	—	—	—	—	Sb 6–8

PERCENTAGE COMPOSITION OF NON-FERROUS ALLOYS—(*continued*).

Description of Alloy.	Alu-minium.	Chrom-ium.	Copper.	Iron.	Lead.	Mag-nesium.	Nickel.	Tin.	Zinc.	Miscellaneous.
Lead-Antimony-Cadmium Alls. :										
Cable Sheathing (B.N.-F. M.R.A.)	—	—	—	—	99·25	—	—	—	—	Sb 0·5 : Cd 0·25
Lead-Base (Complex) Alloys :										
Brgs. for Rollg. Mills ...	—	—	3	—	42	—	—	15	40	—
Cable Sheathing	—	—	0·06–0·10	—	Bal.	—	—	—	—	Te 0·001–0·25
Corr.-Resisting	—	—	5·0 (max.)	—	Bal.	—	—	5·0 (max.)	—	Na. 4·0
,, ,, ...	—	—	5·0 (max.)	—	Bal.	4·0	—	5·0 (max.)	—	—
Graphited Brg. Metal ...	—	—	2·12	—	Bal.	—	—	13·65	—	Sb 14·92 : Cd 0·80 : C 0·18
,, ,, ,, ...	—	—	1·30–1·40	—	73·44–71·50	—	—	10·47–10·22	—	Sb 14·60–16·24 : C 0·19–0·26
Resistant to Sulphuric Acid	—	—	—	—	Bal.	—	0·30–4·05	—	—	Sb 4·4–13
Steam Packing	—	—	10–30	—	65–30	—	15–40	4–15	1–10	Co 1–10
,, ,, ...	—	1–10	10–30	—	65–30	—	15–40	4–15	1–10	—
,, ,, ...	—	—	10–30	—	65–30	—	15–40	4–15	1–10	Mn 1–10
,, ,, ...	—	—	10–30	—	65–30	—	15–40	4–15	1–10	V 1–10
,, ,, ...	—	—	10–30	—	65–30	—	15–40	4–15	1–10	W 1–10
Lead Bronze (proper) :										
Antifriction Alloy	—	—	78·07	—	13·78	—	—	8·15	—	—
Pipe and Valve Castings ...	—	—	82	—	5·75	—	—	7·50	4·75	—
,, ,, ,, ,, ...	—	—	83	—	1·50	—	—	11·50	4·00	—
Railway Bearings	—	—	80	—	10	—	—	10	—	—
Turbine Baffles	—	—	66	—	25	—	—	9	—	—
Usual Limits	—	—	70–90	—	16–6	—	—	14–4	—	—
" Lead-Bronze " (so-called) :										
Bearing Alloy (D.T.D. 274)...	—	—	68–72	0·1 (max.)	28–32	—	—	—	—	Ag 0·4–0·75
,, ,, (D.T.D. 229)...	—	—	72–76	—	23–27	—	—	1·2 (max.)	—	Tot. Imp. 0·25 (max.)
Cable Sheathing	—	—	—	—	99·75	—	—	—	—	Cd 0·25
,, ,, ...	—	—	—	—	Bal.	—	—	—	—	Ca 0·03–0·04
High-Temperature Alloy ...	—	0·25–5·0	10–50	—	20–70	—	10–30	1–20	1–10	Mn 0·25–5·0 : W 0·25–5·0 : P 0·25–5·0

Description of Alloy.	Alu-minium.	Chrom-ium.	Copper.	Iron.	Lead.	Mag-nesium.	Nickel.	Tin.	Zinc.	Miscellaneous.
Lead-Nickel Alloys :										
Resistant to Sulphuric Acid	—	—	—	—	95	—	5	—	—	—
Lead-Tin Alloys :										
Cable Sheathing	—	—	—	—	98·5	—	—	1·5	—	—
,, ,, ...	—	—	—	—	97	—	—	3	—	—
Piston Rod Pkg. (Steam Eng.)	—	—	—	—	90·9	—	—	9·1	—	—
Plaited Packing (Steam Eng.)	—	—	—	—	95·25	—	—	4·75	—	—
Lead-Tin-Antimony Alloys :										
Acid-Resisting	—	—	—	—	80	—	—	5	—	Sb 15
Bearing Alloys (Usual) ...	—	—	—	—	80–65	—	—	5–10	—	Sb 15–25
Bearings, Automobile (French)	—	—	—	—	75	—	—	10	—	Sb 15
Bearings for Low-lift Pumps	—	—	—	—	80	—	—	10	—	Sb 10
Bearings for Meyer & Schmidt Grndg. Mach.	—	—	—	—	61	—	—	21	—	Sb 18
Cable Sheathing (American)	—	—	—	—	Bal.	—	—	1–3	—	Sb 0·5–0·9
Car Bearings (Russian Rlys.)	—	—	—	—	90	—	—	2	—	Sb 8
Car'ge & Wag.Brgs.(L.& Y.Ry)	—	—	—	—	70	—	—	15	—	Sb 15
Met. Pkg. (Cie. d'Orléans) ...	—	—	—	—	76	—	—	14	—	Sb 10
Packing Rings	—	—	—	—	80	—	—	12	—	Sb 8
,, ,, ...	—	—	—	—	66	—	—	19	—	Sb 15
Pattern Plates	—	—	—	—	78	—	—	4	—	Sb 18
,, ,, ...	—	—	—	—	60	—	—	30	—	Sb 10
,, ,, ...	—	—	—	—	65	—	—	10	—	Sb 25
,, ,, ...	—	—	—	—	70	—	—	20	—	Sb 10
Piston Rod Pkg. (Cie du Nord)	—	—	—	—	73	—	—	12	—	Sb 15
Piston Rod Stuffing Boxes...	—	—	—	—	80	—	—	12	—	Sb 8
Stuffing Box Superheat Alloy	—	—	—	—	65	—	—	20	—	Sb 15
Lead-Tin-Antimony-Copper Brg. Alloys :										
For Heavy Pressure and Medium Speed or Medium Pressure and High Speed, Auto. Engines, etc. ...	—	—	1·5	—	48·5	—	—	40	—	Sb 10
For Medium Pressure and Speed, or Light Pressure and High Speed... ...	—	—	1·5	—	63·5	—	—	20	—	Sb 15

PERCENTAGE COMPOSITION OF NON-FERROUS ALLOYS—(*continued*).

Description of Alloy.	Alu-minium.	Chrom-ium.	Copper.	Iron.	Lead.	Mag-nesium.	Nickel.	Tin.	Zinc.	Miscellaneous.
Lead-Tin-Antimony-Copper Brg. Alloys:—Contd.										
Raily. Wagon Brgs. (German)	—	—	2·08	—	58·09	—	—	23·86	—	Sb 15·95
Lead-Tin-Cadmium Alloys:										
Cable Sheathing (B.N.-F. M.R.A.)	—	—	—	—	98·25	—	—	1·5	—	Cd 0·25
Plumber's Solder	—	—	—	—	68	—	—	23	—	Cd 9
Lechesne Alloy	0·05–0·2	—	90–60	—	—	—	10–40	—	—	—
Legal (Rollg. & Forg. Al.—H.T.)	97·2	—	—	—	—	1·0	—	—	—	Mn 0·8 : Si 1·0
Lemarquand (Corr.-Res. Al.)...	—	—	39	—	—	—	7	9	37	Co 8
Lichtenberg Alloy (Fusible) ...	—	—	—	—	30	—	—	20	—	Bi 50
Lipowitz's Eutectic Alloy (Fus.—M.Pt. 72° C.) ...	—	—	—	—	27	—	—	13	—	Bi 50 : Cd 10
Lipowitz's Eutectic Alloy (Mod. Comp.—M. Pt. 46·5° C.)	—	—	—	—	22·11	—	—	10·65	—	Bi 40·95 : In 18·10 : Cd 8·20
Litinum Bronze	—	—	90	—	1·6	—	—	4·7	3·86	—
Litnum Bronze	10–15	—	80–85	4	—	—	—	—	—	—
,, ,, ...	7·3	—	89·3	3·4	—	—	—	—	—	—
Lo-Ex (Piston Alloy—H.T.) ...	82·2	—	0·8	—	—	1·0	2·0	—	—	Si 14·0
,, ,, ,, ,, ...	Bal.	—	0·9	—	—	1·0	2·0	—	—	Si 14·0
,, ,, ,, ,, ...	Bal.	—	1	—	—	1	2	—	—	Si 13–14
Lo-Ex (English Pat. No. 334656)	Bal.	—	0·50–1·00	—	—	0·75–1·25	1·5–2·5	—	—	Si 13–15
Lo-Ex (Piston Alloy—H.T.) ...	Bal.	—	0·9	—	—	1·0	2·0	—	—	Si 12·0
Low Brass	—	—	80	—	—	—	—	—	20	—
,, ,, ...	—	—	60	0·4	1·5	—	—	0·15	37·95	—
Lucerno (Resistance Alloy) ...	—	—	27·5	2·4	—	—	67·9	—	—	Mn 2·2
,, ,, ,, ...	—	—	30	—	—	—	65	—	—	Mn 5
Lumen Alloy No. 4	—	—	90	—	1·5	—	—	6·5	2	—
,, ,, ,, 27	10·75	—	79·75	6	—	—	—	—	—	Mn 3·5
,, ,, ,, 193... ...	11	—	79	5	—	—	5	—	—	—
Lumen Bronze (Brg. Alloy) ...	5	—	10	—	—	—	—	—	85	—
,, ,, ,, ,, ...	4	—	10	—	—	—	—	—	86	—
,, ,, ,, ,, ...	8	—	4	—	—	—	—	—	88	—
,, ,, ,, ,, ...	4	—	10	—	—	0·1	—	—	86	—
Lurgi Metal (Brg. Alloy) ...	—	—	—	—	Bal.	—	—	—	—	Ba 2

Description of Alloy.	Aluminium.	Chromium.	Copper.	Iron.	Lead.	Magnesium.	Nickel.	Tin.	Zinc.	Miscellaneous.
Lurgi Metal (Brg. Alloy) ...	—	—	—	—	96·5	—	—	—	—	Ba 2·8 : Ca 0·4 : Na 0·3
Lynite (Body Alloy)	Bal.	—	5	—	—	—	—	—	—	—
,, (Crankcase)	Bal.	—	7·8	1·25	—	—	—	—	1·5	—
,, (Piston Alloy)	90	—	8	1·5	—	0·5	—	—	—	—
,, ,, ,, ...	88·5	—	10	1·0	—	0·5	—	—	—	—
,, ,, ,, ...	95·3	—	2·14	0·76	—	1·5	—	—	—	Mn 0·07 : Si 0·23
,, ,, ,, ...	88·5	—	11·0	—	—	0·5	—	—	—	—
,, ,, ,, ...	88	—	10	1·5	—	—	—	—	—	Mn 0·25
Lynite 109	Bal.	—	11·5–13·5	—	—	—	—	—	—	—
Lynite 122	Bal.	—	9·25–10·75	—	—	—	—	—	—	—
Lynite 145 (High Strength Castg. Alloy)	86·3	—	2·5	1·2	—	—	—	—	10·0	—
,, ,, ,, ,,	Bal.	—	2·75	1·0 (min.)	—	—	—	—	7–8	—
Lynite 146	Bal.	—	7–8·5	—	—	—	—	—	—	—
Lynux	3·75	—	89·1	7·25	—	—	—	—	—	—
MG 5 (Weldg. & Rivet Wire, etc.)	Bal.	—	—	0·50 (max.)	—	4·5–5·5	—	—	—	Mn 0·60 (max.) : Si 0·50 (max.) : Ti Nil
MG 5 (For welding MG 7) (D.T.D. 202)	Bal.	—	—	0·50 (max.)	—	4·5–5·5	—	—	—	Tot. Imp. incl. Fe 1·5 (max.)
MG 7 (Rollg. & Forg. Al., Corr.-Res., H.T.)	92·5	—	—	—	—	7·0	—	—	—	Mn 0·5
MG 7 (Bars, Forgings, etc., D.T.D. Specs.)	Bal.	—	—	0·75 (max.)	—	6·50–10·0	—	—	—	Mn 0·60 (max.) : Si 0·50 (max.) : Ti Nil
MG 7 (Bars, Tubes—D.T.D. 190 and 194)	Bal.	—	—	0·75 (max.)	—	6·50–7·25	—	—	—	Mn 0·30–0·60
MG 8 (Bar)	Bal.	—	—	0·75 (max.)	—	6·50–10·0	—	—	—	Mn 0·60 (max.) : Si 0·50 (max.) : Ti Nil
MM Alloy (Cooking Utensils, etc.)	Bal.	—	—	—	—	0·2–0·4	—	—	—	Mn 1·1–1·5
MMM Alloy (Cast, as Monel Metal)	—	—	27–24	—	—	—	60–65	9–11	—	Si + Fe + Mn 1–3
,, ,, ,, ,, ,, ,,	—	—	25	3·5	—	—	61	9	—	Mn 0·75 : Si 0·75
MVC Alloy (As Alpax) ...	89·0	—	—	—	—	—	—	—	—	Si 11·0

PERCENTAGE COMPOSITION OF NON-FERROUS ALLOYS—(*continued*).

Description of Alloy.	Aluminium.	Chromium.	Copper.	Iron.	Lead.	Magnesium.	Nickel.	Tin.	Zinc.	Miscellaneous.
MVC Alloy (Castings)... ...	Bal.	—	—	0·60 (max.)	—	—	—	—	0·10 (max.)	Si 8–12 : Mn 0·50 (max.) : Ti 0·20 (max.) : Tot. Oth. Imp. 0·10 (max.) : Tot. Mod. Agents 0·30 (max.)
Macadamite	Bal.	—	3·0	—	—	0·2	—	—	12–18	—
,, ...	84·0	—	3·0	—	—	—	—	—	13·0	—
Machine Bronze	—	—	50–90	—	0–8	—	25	0–30	0–30	—
,, ,, ...	—	—	50	—	—	—	25	25	—	—
,, ,, ...	—	—	Bal.	—	—	—	—	8–10	20–30	—
Machinery Brass	—	—	83	—	—	—	—	1	16	—
Mach's Alloy	Bal.	—	—	—	—	2–10	—	—	—	—
Mackenzie Metal	—	—	—	—	70	—	—	13	—	Sb 17
Magnalite (Piston Alloy) ...	94·7	—	2·5	—	—	1·3	1·5	—	—	—
,, ,, ,, ...	94	—	2	—	—	2	2	—	—	—
,, ,, ,, ...	94·2	—	2·5	—	—	1·3	1·5	—	0·5	—
,, ,, ,, ...	94·9	—	2	—	—	1	1·5	—	—	Si 0·6
,, ,, ,, ...	94·2	—	2·5	—	—	1·5	1·5	—	0·5	—
Magnalium (Cast & Wrt. Alloy)	95	—	—	—	—	5	—	—	—	—
Magnalium I (Cast)	95·5	—	1·75	—	—	1·75	1·0	—	—	—
,, II ,, ...	95·5	—	1·75	—	1·0	1·75	—	—	—	—
,, (Cast)	Bal.	—	0·21	—	0·7	1·58	—	3·15	—	—
,, ,, ...	85	—	—	—	—	15	—	—	—	—
,, (Sheet)	Bal.	—	—	—	—	1–10	—	—	1–20	—
,, (Wrought) ...	Bal.	—	—	—	—	8·2–8·5	—	—	—	Mn 0·7–0·9 : Fe+ Si 0·7–0·8
Magnesium-Base Alloys :										
Bars—D.T.D. 142	0·2 (max.)	—	0·2 (max.)	—	—	Bal.	—	—	0·2 (max.)	Mn 2·5 (max.) : Si 0·4 (max.) : Imp. 0·5 (max.)
Bars—D.T.D. 259	11·0 (max.)	—	—	—	—	Bal.	—	—	1·5 (max.)	Mn 1·0 (max.) : Tot. Imp. 1·5 (max.)
Castings—D.T.D. 59A ...	8·5 (max.)	—	0·4 (max.)	0·1 (max.)	0·4 (max.)	Bal.	—	0·4 (max.)	3·5 (max.)	Mn 0·5 (max.) : Si 0·4 (max.)

Description of Alloy.	Aluminium.	Chromium.	Copper.	Iron.	Lead.	Magnesium.	Nickel.	Tin.	Zinc.	Miscellaneous.
Magnesium-Base Alloys: —Contd.										
Castings—D.T.D. 140A ...	0·2 (max.)	—	0·2 (max.)	—	—	Bal.	—	—	0·2 (max.)	Mn 2·5 (max.) : Si 0·4 (max.)
,, D.T.D. 136A ...	9–11	—	—	—	—	Bal.	—	—	3·5 (max.)	Mn 0·5 (max.) : Tot. Imp. 1·5 (max.)
Forgings, etc.—D.T.D. 88B	11·0 (max.)	—	—	—	—	Bal.	—	—	1·5 (max.)	Mn 1·0 (max.) : Tot. Imp. 1·5 (max.)
High-Strength Wrought ...	7·5–8·5	—	—	—	—	Bal.	—	—	—	Mn 0·4 : Ag 2·5–3
Ingots—D.T.D. 325 ...	5·0 (max.)	—	—	—	—	Bal.	—	—	0·5 (max.)	Mn 0·5 (max.) : Imp. 0·5 (max.)
Piston Alloy	—	—	—	—	—	Bal.	—	—	—	Ce 10 : Co 1·5 : Mn 1·5
,, ,, ...	10	—	—	—	—	88·3	—	—	—	Mn 0·2 : Si 1·5
,, ,, ...	2·0	—	4·0	—	—	91·8	—	—	—	Mn 0·2 : Cd 2·0
Sheets for Weldg. (D.T.D.118)	0·2 (max.)	—	0·2 (max.)	—	—	Bal.	—	—	0·2 (max.)	Mn 2·5 (max.) : Si 0·4 (max.) : Imp. 0·5 (max.)
Magnet Steel	—	0–12	—	Bal.	—	—	5–18	—	—	Mn 0–7 : W 1–12 : Co 5–50 : C 0·3–5
Magnetic Alloy "1040" ...	—	—	14	11	—	—	72	—	—	Mo 3
Magno (Resistance Alloy) ...	—	—	—	—	—	—	95	—	—	Mn 5
Magno Nickel (Resistance Alloy)	—	—	—	—	—	—	Bal.	—	—	Mn 2·6
Magnolia Metal (Bearing Alloy)	—	—	—	—	78	—	—	6	—	Sb 16
,, ,, ,, ,,	—	—	—	—	79·75	—	—	5	—	Sb 15 : Bi 0·25
,, ,, ,, ,,	—	—	0·04	—	78·27	—	—	3·88	—	Sb 17·81
,, ,, ,, ,,	—	—	—	—	77·7	—	—	5·9	—	Sb 16·8
Magnolia Metal (For Long Brgs. with Medium Load) ...	—	—	Nil	—	80	—	—	5	—	Sb 15
Magnuminium (Castings, H.T., D.T.D. 281-5)	9·0–11·0	—	—	—	—	Bal.	—	—	1·0 (max.)	Mn 0·5 (max.) : Imp. 1·0 (max.)
Magnuminium (Castings, H.T., D.T.D. 289)	8·5 (max.)	—	—	—	—	Bal.	—	—	3·5 (max.)	Mn 0·5 (max.) : Imp. 1·0 (max.)
Magnuminium (Sheets for Welding—D.T.D. 120A)	9·0 (max.)	—	0·3 (max.)	—	—	Bal.	—	—	1·5 (max.)	Mn 1·0 (max.) : Si 0·4 (max.)

PERCENTAGE COMPOSITION OF NON-FERROUS ALLOYS—(*continued*).

Description of Alloy.	Aluminium.	Chromium.	Copper.	Iron.	Lead.	Magnesium.	Nickel.	Tin.	Zinc.	Miscellaneous.
Magnuminium No. 299 (Cast—D.T.D. 350)	2·0–6·0	—	—	—	—	Bal.	—	3·0–10·0	—	Mn 0·6 (max.) : Ag 0·25–0·40 : Imp. 0·5 (max.)
Maillechort	—	—	66·2	3·2	0·15	—	16·4	0·22	13·4	—
,, ...	—	—	66·6	0·48	—	—	19·3	—	13·6	—
,, ...	—	—	65·4	3·4	—	—	16·8	—	13·4	—
Mallet Alloy	—	—	25·4	—	—	—	—	—	74·6	—
Maluminium	Bal.	—	6·4	1·4	0·15	—	—	—	4·8	Mn 0·1 : Si 0·2
Mangal (Rollg. & Forg. Alloy)	98·5	—	—	—	—	—	—	—	—	Mn 1·5
Manganese-Aluminium Alloys : Hardener	Bal.	—	—	—	—	—	—	—	—	75 (max.)*
Manganese-Aluminium Brass (Cast—H.T., Corr.-Res.)...	1	—	56·33	—	—	—	—	—	40	Mn 2·66
Manganese-Boron (Deoxidiser)	—	—	—	—	—	—	—	—	—	Mn Bal. : B 20–25 : C Nil
Manganese Bronze :										
Bearing Alloy	0·40	—	56·2	1·50	—	—	—	1·0	40·0	Mn 0·90
British Chem. Std. "Bronze" "B"	1·62	—	58·8	0·94	0·78	—	1·01	1·76	33·9	Mn 1·03 : As 0·03 : Sb 0·05
Castings	0·25	—	59·5	0·25	—	—	—	—	39·0	Mn 1·0
Castings (Sand — A.S.T.M. B7–27)	1·5–0	—	60–55	2·0–0	0·2–0	—	—	1·5–0	42–38	Mn 3·5–0
Castings (U.S. Fed. Spec. Bd. No. 370)	1·5 (max.)	—	60–55	0·40–2·0	0·20 (max.)	—	—	1·5 (max.)	38–42	Mn 3·5 (max.) : Oth. Imp. 0·20 (max.)
Drawn	0·19	—	56·91	0·82	0·66	—	0·21	0·75	40·28	Mn 0·19
Free-Machining	—	—	57–59	—	1·25–1·75	—	—	1·25–1·75	37–39	Mn 0·5–1·0
Propeller Alloy	0·25	—	51·75	1·00	—	—	5·00	—	40·50	Mn 1·50
,, ,, ...	—	—	54·80	1·72	—	—	0·07	—	38·36	Mn 2·79 : Co 2·16
,, ,, ...	1·00	—	58·00	1·20	—	—	0·50	0·50	37·00	Mn 1·80
,, ,, ...	0·20	—	48·00	1·00	0·10	—	2·00	0·50	46·45	Mn 1·75 : Co 0·08
Rods, Bars, &c.	0·25 (max.)	—	57–60	0·8–2·0	0·20 (max.)	—	—	0·5–1·5	Bal.	Mn 0·50 (max.) : Oth. Imp. 0·10 (max.)

* Any specified percentage within these limits.

Description of Alloy.	Aluminium.	Chromium.	Copper.	Iron.	Lead.	Magnesium.	Nickel	Tin.	Zinc.	Miscellaneous.
Manganese Bronze—Contd.										
Rolled	—	—	62·45	0·84	0·06	—	—	0·63	36·00	Mn 0·02
Steam Turbine Return Boxes (H.P.)	0·75	—	53·14	1·55	1·13	—	0·49	0·22	40·18	Mn 2·54
,, ,, ,, ,,	0·60	—	55·27	1·65	1·39	—	0·45	0·40	37·40	Mn 2·84
Trunnion Bearings (Cast) ...	4–6	—	Bal.	2–3	—	—	—	—	19–22	Mn 3·5–4·5
Trunnion Bearings	5·25	—	Bal.	2·5	—	—	—	—	20·5	Mn 4·25
Turbine Regulating Ring ...	—	—	53·77	1·04	Trace	—	—	1·29	43·73	Mn 0·12
U.S. Navy Dept. Spec.46B15c, 1934	0·25 (max.)	—	57–60	0·8–2·0	0·20 (max.)	—	—	0·5–1·5	Bal.	Mn 0·5 (max.)
Usual Limits	Tr.–5·0	—	55–65	Tr.–2·0	—	—	—	Tr.–1·5	Bal.	Mn Trace–3·5
Welding Rod for Gas Welding	0·05–0·15	—	57–60	0·3–1·0	0·5 (max.)	—	—	1·0 (max.)	Bal.	Mn 0·3–0·5
Manganese-Copper (Murex, Ltd.)	—	—	68·87	0·40	—	—	—	—	—	Mn 30·3 : Si 0·38 : C Nil
Manganese-Iron (Hardener) ...	—	—	—	Bal.	—	—	—	—	—	Mn 85–90 : C Nil
Manganese-Iron—*See also* Ferro-Manganese										
Manganese-Nickel Alloys :										
Hardener	—	—	—	—	—	—	25	—	—	Mn 75
,, ...	—	—	—	—	—	—	50·9	—	—	Mn 45·92 : Si 1·6
Manganese Silver	—	—	80	—	—	—	—	—	5	Mn 15
Manganin (Resistance Alloy)...	—	—	86–84	—	—	—	2–4	—	—	Mn 12
,, ,, ,, ...	—	—	88·65 max	—	—	—	4	—	—	Mn 9–14·5
,, ,, ,, ...	—	—	82	Trace	—	—	4	—	—	Mn 14
,, ,, ,, ...	—	—	86	—	—	—	2	—	—	Mn 12
,, ,, ,, ...	—	—	82·1	0·6	—	—	2·3	—	—	Mn 15
,, ,, ,, ...	—	—	80·8	2·5	—	—	—	—	—	Mn 16·2 : Si 0·35
,, (Originally) ...	—	—	84–85	—	—	—	4–2	—	—	Mn 12–14
,, (More recently) ...	—	—	80–81	—	—	—	1·5–2	—	—	Mn 17–18
,, (Double Manganin)	6·11	—	71·49	—	—	—	—	—	—	Mn 20–79
Mangonic (Wrt. Heat-Res. Alloy)	—	—	—	—	—	—	97	—	—	Mn 3
Manhardt's Alloy	83·33	—	6·24	—	—	0·05	—	10	—	P 0·07
Mannheim Gold	—	—	89·4	—	—	—	—	0·62	9·92	—
,, ,, ...	—	—	88	—	—	—	—	—	12	—
,, ,, ...	—	—	80	—	—	—	—	—	20	—

PERCENTAGE COMPOSITION OF NON-FERROUS ALLOYS—(*continued*).

Description of Alloy.	Aluminium.	Chromium.	Copper.	Iron.	Lead.	Magnesium.	Nickel.	Tin.	Zinc.	Miscellaneous.
Margraff's Alloy	—	—	58	—	—	—	—	28	14	—
Marine Bronze	0·15	—	57·5	—	0·50	—	0·8	0·15	Bal.	—
Market Brass	—	—	65	—	—	—	—	—	35	—
Marlies Non-Oxidisable Alloy...	—	—	17	10	—	—	35	20	18	—
Marsh's Patent (Resistance Alloy)	—	25	—	—	—	—	75	—	—	—
Matrix Alloy (M.Pt. 120° C.)...	—	—	—	—	28·5	—	—	14·5	—	Bi 48 : Sb 9
Matrix Brass	—	—	62	—	1·5	—	—	—	33·5	—
Mazak 3 (Die Casting Alloy) ...	4·1	—	—	0·075 (max.)	0·003 (max.)	0·04	—	0·001 (max.)	Bal.	Cd 0·003 (max.)
Mazak 5 ,, ,, ,, ...	4·1	—	1·0	0·075 (max.)	0·003 (max.)	0·03	—	0·001 (max.)	Bal.	Cd 0·003 (max.)
McKechnie's Bronze	—	—	57	1	0·5	—	—	1	41	—
Megaperm 4510 (Hi. Perm. Al. for Higher Field Strengths)	—	—	—	45	—	—	45	—	—	Mn 10
Megaperm 6510 (Hi. Perm. Al. for Higher Field Strengths)	—	—	—	25	—	—	65	—	—	Mn 10
Melchoir Wire	—	—	57·3	—	—	—	41·6	—	—	Mn 1·1
,, ,, ...	—	—	62·7	—	—	—	10·8	—	25·9	Mn 0·6
Metalline	25	—	30	10	—	—	—	—	—	Co 35
Meteorite	Bal.	—	—	—	—	—	—	—	1–2	P 1–4
Minargent	0·57	—	56·82	—	—	—	39·77	—	—	W 2·84
Minofor	—	—	4	1	—	—	—	66	9	Sb 20
,, ...	—	—	3·3	—	—	—	—	68·5	10	Sb 18·2
,, ...	—	—	4	—	—	—	—	72	—	Sb 24
,, ...	—	—	2	—	—	—	—	84	5	Sb 9
,, ...	—	—	10	—	—	—	—	20	6	Sb 64
Mira Metal I	—	—	74·7	0·43	16·3	—	0·24	0·91	0·62	Sb 6·8
,, ,, II	—	—	75	—	16	—	1	8	—	—
Miralite (Cast and Wrt. Corr.-Res. Al.)	95·00	—	—	0·40	0·05	—	4·10	—	—	Mn Trace : Si 0·32 : Na 0·04
Mirament (Sintered Carbide Cutting Tools)	—	—	—	5	—	—	—	—	—	C 2·00 : W 50·0 : Mo 16·0 : Ti 25·0
Mirror Alloys—*See* Speculum										

Description of Alloy.	Aluminium.	Chromium.	Copper.	Iron.	Lead.	Magnesium.	Nickel.	Tin.	Zinc.	Miscellaneous.
Misch Metal (Pyrophoric) ...	—	—	—	—	—	—	—	—	—	Ce 40–50 : La 20–40 : Y 1 : Nd, Sm and Gd Bal.
Misco Standard Alloy (Corr.-Res.)	—	15–17	—	Bal.	—	—	35–37	—	—	Si 1·4–1·6 : Mn 0·6–0·8 : C 0·5–0·7
Mock Silver	84·2	—	5·5	—	—	—	—	10·2	—	P 0·1
Molybdenum (Complex) Alloy (Pen Points)	—	—	—	—	—	—	—	—	—	Mo 60 : Pt 10 : W 10 : Cu Ni 20
Molybdenum-Nickel Welding Rod	—	—	—	—	—	—	25	—	—	Mo 75
Mond Seventy Alloy (Corr.-Res.)	—	—	26	—	—	—	70	—	—	Mn 4
Monel Metal :										
Castings (Admty. Spec.) ...	—	—	Bal.	3·5 (max.)	—	—	64–69	—	—	Mn 0·75–3·0 : C 0·25 (max.) : S 0·1 (max.) : Imp. 0·5 (max.)
Castings (Normal Quality)...	—	—	27·5–29·5	3·0 (max.)	Nil	0·10	63–68	—	—	Mn 0·5–1·0 : C 0·10–0·35 : S 0·3 (max.) : Si 1·3–1·8
Castings (U.S. Fed. Spec. No. 578)	0·5 (max.)	—	23 (min.)	3·5 (max.)	—	—	60 (min.)	—	—	Mn 3·5 (max.): Tot. Imp. 2·0 (max.)
Propellers	0·5	—	33	6·5	Nil	—	60	—	—	—
Welding Rod (Gas Welding)	0·5 (max.)	—	23 (min.)	3·5 (max.)	—	—	60 (min.)	—	—	Mn 3·5 (max.) : Si 0·3 (max.) : C 0·3 (max.)
Wrought	—	—	31·31	0·83	—	—	(Ni+Co) 66·68			Mn 0·90 : C 0·19 : Si 0·04 : S 0·007
Wrought (Admty. Spec.)—Bar and Wire	—	—	Bal.	2·0 (max.)	—	—	64–69	—	—	C 0·25 (max.) : S 0·04 (max.) : Mn 0·75–3·0 : Imp. 0·30 (max.)
Wrought (Admty. Spec.)—Sheet	—	—	Bal.	2·0 (max.)	—	—	64–69	—	—	C 0·25 (max.) : S 0·04 (max.) : Mn 0·75–1·5 : Imp. 0·30 (max.)

PERCENTAGE COMPOSITION OF NON-FERROUS ALLOYS—(*continued*).

Description of Alloy.	Aluminium.	Chromium.	Copper.	Iron.	Lead.	Magnesium.	Nickel.	Tin.	Zinc.	Miscellaneous.
Monel Metal :—Contd.										
Wrought (D.T.D. Specns.)...	—	—	Bal.	2·5 (max.)	—	—	64–70	—	—	Mn 0·3–2·0 : Tot. Imp. 0·3 (max.)
Wrought (Normal Quality)	—	—	30	1·25	—	—	67	—	—	Mn 1·25 : Tot. Imp. 0·50
Monel B—Ordinary Variety (*See above*)										
Monel H (Cast, H.T., Corr.-Res.)	—	—	27·5–29·5	3·0 (max.)	Nil	0·10	63·0–68·0	—	—	C 0·10–0·12 : Si 2·5–3·0 : S 0·03 (max.) : Mn 0·5–1·0
Monel H—*See also* Silicon Monel										
Monel K (Wrt.,H.T.,Spec. Duty)	2·75	—	29	0·9	—	—	66	—	—	C 0·15 : Si 0·25 : Mn 0·4
,, ,, ,, ,, ,, ,,	3·22	—	30·05	0·78	—	—	(Ni+Co) 64·95	—	—	C 0·19 : Si 0·33 : S 0·005 : Mn 0·45
Monel R—Free-Machining Variety containing Sulphur										
Monel S (Cast, H.T., Hi. Tensile)	—	—	27·5–29·5	3·0 (max.)	Nil	0·10	63·0–68·0	—	—	C 0·10–0·12 : Si 3·5–4 : S 0·03 (max.) : Mn 0·5–1·0
Montana Gold	0·5	—	89·0	—	—	—	—	—	10·5	—
Montegal(Rollg. & Forg.Al.,H.T.)	98·0	—	—	—	—	1·0	—	—	—	Si 0·8 : Ca 0·2
Morrison's Ductile Bronze ...	—	—	91	—	—	—	—	9	—	—
Mosaic Gold	—	—	65	—	—	—	—	—	35	—
,, ,, ...	—	—	65·3	—	—	—	—	—	34·7	—
Mousset's Silver	—	—	59·5	—	—	—	3·5	—	9·5	Ag 27·5
Mueller Blue Tip Bronze ...	—	—	60·36	—	—	—	—	0·94	38·6	—
Mumetal (Hi. Perm.—Low. Hys. Al.)	—	2	5	17	—	—	76	—	—	—
,, ,, ,, ,,	—	1·5	6	16·5	—	—	76	—	—	—
,, ,, ,, ,,	—	1·5	5	16·5	—	—	77	—	—	—
,, ,, ,, ,,	—	—	5·3	20	—	—	74	—	—	Mn 0·7
,, ,, ,, ,,	—	—	5	20–25	—	—	Bal.	—	—	Mn 1·0

Description of Alloy.	Alu-minium.	Chrom-ium.	Copper.	Iron.	Lead.	Mag-nesium.	Nickel.	Tin.	Zinc.	Miscellaneous.
Muntz Metal	—	—	60	—	—	—	—	—	40	—
,, ,, ...	—	—	60	—	0·6 (max.)	—	—	—	Bal.	—
,, ,, (Cond. Tube Plates)	—	—	58·0–61·0	0·15 (max.)	0·35–0·90	—	—	0·25 (max.)	Bal.	Oth. Imp. 0·10 (max.)
,, ,, (Pipe—Std. Sizes)	—	—	59·0–63·0	0·07 (max.)	0·50 (max.)	—	—	0·15 (max.)	Bal.	—
,, ,, (Rolled)	—	—	57·55	0·38	0·56	—	—	1·49	40·02	—
,, ,, (Seamless Cond. Tubes)	—	—	59·0–63·0	0·07 (max.)	0·30 (max.)	—	—	—	Bal.	—
Murman's Alloy	92	—	—	—	—	3·6	—	—	4·4	—
,, ,, ...	72	—	—	—	—	13·5	—	—	14·5	—
Musiv-Gold	—	—	66–70	—	—	—	—	—	34–30	—
Mystic Metal	—	—	—	0·4	88·7	—	—	—	—	Sb 10·8 : Bi 0·1
" N " Alloy, Cast or Wrt. (U.S. Navy Dept.)	91	—	6	—	—	—	—	—	—	Mn 3
NA. 2S (Wrt., Strain-Hardening)	Bal.	—	—	0·6 (max.)	—	—	—	—	—	Si 0·5 (max.)
,, 3S ,, ,, ,,	Bal.	—	—	—	—	—	—	—	—	Mn 1·5 (max.)
,, ,, ,, ,, ,,	Bal.	—	—	—	—	—	—	—	—	Mn 1·2
,, 4S ,, ,, ,,	Bal.	—	—	—	—	1·1	—	—	—	Mn 1·2
,, ,, (Sheets, Strips—D.T.D. Specns)	Bal.	—	—	0·7 (max.)	—	3·0 (max.)	—	—	—	Mn 1·5 (max.) : Si 0·7 (max)
,, 13S (Wrt., H.T.)	Bal.	—	1·5	—	—	0·5	—	—	—	Mn 0·25 : Si 0·5
,, 15S (Bars, Forgings, etc.—D.T.D. 293)	Bal.	0·05–0·3*	1·5–3·0	0·5–1·5	—	0·5–1·25	0·5–2·0	—	—	Si 0·3–1·5 : Ce 0·05–0·3*
,, 16S (Wrt., H.T.)	Bal.	—	2·0	—	—	0·4	—	—	—	—
,, 16ST (Rivets—D.T.D. 327)	Bal.	—	1·5–3·0	0·7 (max.)	—	0·2–0·5	0·7 (max.)	—	—	Mn 0·5 (max.) : Si 0·7 (max.) : Ti 0·3 (max.)
,, 17S (Wrt.—H.T.) ...	Bal.	—	4·0	—	—	0·6	—	—	—	Mn 0·6
,, ,, (Bars, Sheets, etc.—B.S. Specns.) ...	Bal.	—	3–4	—	—	0·4–0·7	—	—	—	Mn 0·4–0·7
,, 19S (Wrt., H.T.)	Bal.	—	4·0	—	—	1·5	2·0	—	—	—
,, 21S (Wrt., H.T.)	Bal.	—	4·0	—	—	0·4	—	—	—	Mn 0·8 : Si 0·8

* If present.

PERCENTAGE COMPOSITION OF NON-FERROUS ALLOYS—(*continued*).

Description of Alloy.	Aluminium.	Chromium.	Copper.	Iron.	Lead.	Magnesium.	Nickel.	Tin.	Zinc.	Miscellaneous.
NA. 22S (Bars, Forgings, etc.—D.T.D. 252)	Bal.	—	3·5–4·7	0·7 (max.)	—	0·4–1·0	—	—	—	Mn 0·4–1·5 : Si 0·7–1·5
,, 23S (Wrt.—H.T.) ...	Bal.	—	4·3	—	—	1·0	—	—	—	Mn 0·6
,, 24S ,, ,, ...	Bal.	—	4·5	—	—	1·5	—	—	—	Mn 0·6
,, ,, (Bars, Sheets, Tubes, etc.—D.T.D. Specns.)	Bal.	—	3·5–4·8	0·4 (max.)	—	0·8–1·8	—	—	—	Mn 0·3–1·5 : Si 0·5 (max.)
,, 26S (Wrt.—H.T.) ...	Bal.	—	4·0	—	—	0·4	—	—	—	Mn 0·8 : Si 0·8
,, 26ST (Bars, Sheets, etc.—D.T.D. Specns.)	Bal.	—	3·0–4·5	1·0 (max.)	—	1·0 (max.)	—	—	—	Mn 1·2 (max.) : Si 1·0 (max.)
,, 29S (Wrt.—H.T.—B. Patent 446,042)	Bal.	—	2·7	—	—	0·4	—	—	—	Mn 0·4
,, 33S (Wrt., Strain-Hardening)	Bal.	—	—	—	—	—	—	—	—	Si 5·0
,, 35S ,, ,, ,,	Bal.	—	—	—	—	—	—	—	—	Si 10–13
,, ,, ,, ,, ,,	Bal.	—	—	—	—	—	—	—	—	Si 12·0
,, 38S (Wrt.—H.T.) ...	Bal.	—	0·8	0·6 (max.)	—	1·0	1·0	—	—	Si 12·0
,, ,, (Forgings—D.T.D. 324)	Bal.	—	0·7–1·3	—	—	0·8–1·5	0·7–1·3	—	—	Si 11·5–13 : Imp. 0·6 (max.)
,, 50S (Wrt.—H.T.) ...	Bal.	—	—	—	—	0·6	—	—	—	Si 0·3
,, 51S (Wrt.—H.T.) ...	Bal.	—	—	—	—	0·6	—	—	—	Si 1·0
,, ,, (Rolled Sheet and Ext. Sect.—H.T.) ...	Bal.	—	—	—	—	0·5–1·5	—	—	—	Si 0·5–1·5
,, 57S (Wrt., Strain-Harden'g)	Bal.	0·25	—	—	—	2·5	—	—	—	—
,, ,, (Sheets, Strips—D.T.D. Specns.)	Bal.	0·1–0·35	—	—	—	1·5–3·0	—	—	—	Imp. 0·35 (max.)
,, 111 (Cast, not Pistons—D.T.D. 287)	Bal.	0·05–0·30 (if present)	1·0–2·0	0·25–1·3	—	0·05–0·2	1·0–1·75	—	—	Si 0·75–2·5 : Ce or Cb (if present) 0·05–0·30
,, 116 (Cast, not H.T.) ...	Bal.	—	—	—	—	—	—	—	—	Si 3·0
,, 123 (Cast, not H.T., Gen. Purp.)	Bal.	—	—	—	—	—	—	—	—	Si 5·0
,, 125 (Cast, H.T.)	Bal.	—	1·2	—	—	0·5	—	—	—	Si 5·0
,, ,, (Intricate Castgs.—D.T.D. 272 and 6)	Bal.	—	1·0–1·5	0·6 (max.)	—	0·4–0·6	—	—	—	Si 4·5–5·5 : Ti 0·25 (max.)
,, 160 (Cast, not H.T.) ...	Bal.	—	—	—	—	—	—	—	—	Si 12·5

Description of Alloy.	Alu-minium.	Chrom-ium.	Copper.	Iron.	Lead.	Mag-nesium.	Nickel	Tin.	Zinc.	Miscellaneous
NA. 160 (Gen. Purp.—B.S.S. L 33)	Bal.	—	—	0·6 (max.)	—	—	—	—	0·1 (max.)	Si 10–13 : Mn 0·5 (max.) : Tot. Imp. 0·1 (max.) : Tot. Modif. Agents 0·3 (max.) : Ti 0·2 (max.)
,, 161 (Cast, H.T.)	Bal.	—	—	—	—	0·6	—	—	—	Si 12·5 : Mn 0·6
,, ,, (Stressed Parts—D.T.D. 240 and 245)	Bal.	—	—	0·6 (max.)	—	0·6 (max.)	—	—	—	Si 10–13 : Mn 0·6 (max.) : Tot. Oth Imp. 0·2 (max.)
,, 162 (Cast, H.T.)	Bal.	—	0·8	0·8	—	1	2·5	—	—	Si 12
,, ,, (Lo-Ex, Cast Pistons)	Bal.	—	0·5–1·0	—	—	0·75–1·25	1·5–3·0	—	—	Si 12–15
,, 218 (Y-Alloy, as cast or H.T.)	Bal.	—	4	—	—	1·5	2	—	—	—
,, ,, (B.S.S. 2 L 24 and L 35)	Bal.	—	3·5–4·5	0·6 (max.)	0·05 (max.)	1·2–1·7	1·8–2·3	—	—	Si 0·6 (max.) : Si+ Fe 1·0 (max.) : Sn + Zn 0·1 (max.) : Ti 0·2 (max.)
,, 222 (Castings—D.T.D. 269)	Bal.	—	4·0–4·6	0·5–0·7	—	0·1–0·3	—	—	—	Si 0·7–0·9 : Mn 0·3 (max.) : Ti 0·25 (max.)
,, 225 (Cast—H.T.)... ...	Bal.	—	4	—	—	—	—	—	—	—
,, ,, (Stressed Parts—D.T.D. 298 and 304)	Bal.	—	4·0–4·6	0·7 (max.)	—	—	—	—	—	Si 0·9 (max.) : Ti 0·25 (max.) : Imp. 0·2 (max.)
,, 226 (Cast—H.T.)... ...	Bal.	—	4	—	—	—	—	—	—	—
,, ,, (Stressed Parts — D.T.D. 361)	Bal.	—	4·0–4·6	0·7 (max.)	—	—	—	—	—	Si 0·9 (max.) : Ti 0·25 (max.) : Imp. 0·2 (max.)
,, 244 (Cast, not H.T.—Gen. Purp.)	Bal.	—	8·0	—	—	—	—	—	—	Si 2·0
,, 250 (Cast, as Cast or H.T.)	Bal.	—	10	1·2	—	0·2	—	—	—	—
,, ,, (Cast Pistons) ...	Bal.	—	9·25–10·75	0·90–1·50	—	0·15–0·35	—	—	—	Imp. 0·75 (max.)
,, 305 (Cast—As Cast or H.T.)	Bal.	—	—	—	—	1·5	—	—	—	Si 1·0

PERCENTAGE COMPOSITION OF NON-FERROUS ALLOYS—(*continued*).

Description of Alloy.	Aluminium.	Chromium.	Copper.	Iron.	Lead.	Magnesium.	Nickel.	Tin.	Zinc.	Miscellaneous.
NA. 305 (Good Conduct'y and Corr.-Res.)... ...	Bal.	—	—	—	—	0·75–2·0	—	—	—	Si 0·25–1·5
,, 350 (Cast—H.T.)... ...	Bal.	—	—	—	—	10	—	—	—	—
,, ,, (Cast, not pistons—D.T.D. 300)	Bal.	—	0·15 (max.)	0·30 (max.)	—	9·5–10·5	—	—	—	Si 0·25 (max.) : Imp. 0·25 (max.)
N.C.T. 3 (Thermocouples) ...	—	37·5	—	Bal.	—	—	17·5	—	—	Mn 0·48
N.M. Bronze (Propeller Cast'gs)	0·4	—	50	2·5	—	—	8	—	38·5	Mn 0·4
Naval Brass :										
Bars	—	—	61·73	0·21	0·42	—	—	1·26	36·38	—
Bars, Forgings, etc. (Vs. Brit. Specns.)	—	—	61 (min.)	—	—	—	—	1 (min.)	Bal.	Tot. Imp. 0·75 (max.)
Bars & Sections (B.S.S. 252)	—	—	57·5–59·5	—	—	—	—	0·60–1·00	Bal.	Tot. Imp. 0·75 (max.)
Bolts	—	—	57·75	0·55	3·45	—	—	0·80	37·45	—
Plates, Sheet, etc. (B.S.S. 409)	—	—	61 (min.)	—	—	—	—	1 (min.)	Bal.	Tot. Imp. 0·75 (max.)
Rods (A.S.T.M. B21–29) ...	—	—	59–61	0·10 (max.)	0·30 (max.)	—	—	0·5–1·0	Bal.	Oth. Imp. 0·10 (max.)
Screws	—	—	58·70	0·81	3·55	—	0·39	0·95	36·04	—
,, ...	—	—	55·90	0·56	2·60	—	Trace	0·39	40·76	—
Studs...	—	—	56·10	0·42	2·60	—	—	0·87	39·64	—
Welding Rod (Gas Welding)	Nil	—	59–62	0·06 (max.)	0·2 (max.)	—	—	0·5–1·5	Bal.	—
Naval Bronze (Gen. Purp. Castg. Al.)	—	—	88·1	—	—	—	—	9·74	2·04	—
,, ,, ,, ,,	—	—	88	—	—	—	—	10	2	—
Needle Bronze...	—	—	84·5	—	2	—	—	8	5·5	—
Neogen	0·5	—	58	—	—	—	12	2	27	Bi 0·5
Neonalium (Strasser Alloy) ...	86–94	—	14–6	—	—	—	—	—	—	—
Nergandin(Corr.-Res.Cond.Tubes)	—	—	70	—	2	—	—	—	28	—
Newloy (Wrt. Corr.-Res. Al.)...	—	—	64	—	—	—	35	1	—	—
Newton's Fusible Alloy (M. Pt. 201° F.)	—	—	—	—	30	—	—	20	—	Bi 50
Newton's Fusible Alloy ...	—	—	—	—	31·25	—	—	18·75	—	Bi 50
Niag	—	—	46·7	—	2·8	—	9·1	—	40·7	Mn 0·3

Description of Alloy.	Alu-minium.	Chrom-ium.	Copper.	Iron.	Lead.	Mag-nesium.	Nickel.	Tin.	Zinc.	Miscellaneous.
Nichroloy (Corr.-Res. Al.) ...	—	16	—	8	—	—	75	—	—	Mn 1
,, ,, ,, ,, ...	—	7	—	50	—	—	40	—	—	Mn 3
Nichrome (Heat res. Al. to 980°C)	—	15	—	20	—	—	65	—	—	C Low
Nichrome V ,, ,, ,, ,, 1150°C)	—	20	—	Nil	—	—	80	—	—	—
Nichrosi	—	25–30	—	—	—	—	Bal.	—	—	Si 16–18
Nichrosi II	—	15–25	—	—	—	—	Bal.	—	—	Si 16–18
Nickel-Base (Complex) Alloys:										
High Speed Tools	3–5	—	—	—	—	—	Bal.	—	—	W 5–12 : Si 3·5–6 : Ti 6–12 : B 1 (max.)
,, ,, ,, ...	3–5	—	—	—	—	—	Bal.	—	—	W 12 (max.) : Si 3·5–6 : Ti 6–12 : B 1 (max.): Mo 12 (max.)
,, ,, ,, ...	3–5	—	—	—	—	—	Bal.	—	—	W 12 (max.) : Si 3·5–6 : Ti 6–12 : B 1 (max.) : U 12 (max.)
,, ,, ,, ...	3–5	—	—	—	—	—	Bal.	—	—	W 5–12 : Si 3–6 : B 1 (max.) : Zr 6–12
Tools	12	—	—	—	—	—	58	—	20	Si 10
Nickel-Beryllium Alloys:										
Very Hard	—	—	—	—	—	—	Bal.	—	—	Be 25 (max.)
Nickel-Beryllium-Manganese Als:										
Acid-Resistant Alloy ...	—	—	—	—	—	—	97	—	—	Be 1·8 : Mn 1·0
Nickel Brass:										
Bearing Alloy	—	—	58	—	2·5	—	1·5	4	34	—
Collecting Trolley Wheel ...	5	—	60	2	4	—	5	—	24	—
Drawn	—	—	56·7	0·12	—	—	3·35	—	39·74	Mn 0·05
,, ...	—	—	55·15	0·09	—	—	2·24	—	42·3	Mn Trace
Esthonia, 5 Mark	—	—	70	—	—	—	10	—	20	—
High Tenacity	—	—	46	—	—	—	8	—	44	Mn 2
Leaded Rod (Scovill) ...	—	—	46	—	2·5	—	10	—	41·5	—
Turbine Blading	1·40	—	56·00	0·50	—	—	0·90	—	41·20	Mn Nil
,, ,, ...	0·37	—	50·52	1·18	—	—	2·09	—	45·13	Mn 0·27
,, ,, ...	Nil	—	57·23	1·97	—	—	2·82	—	37·98	Mn Trace

PERCENTAGE COMPOSITION OF NON-FERROUS ALLOYS—(*continued*).

Description of Alloy.	Aluminium.	Chromium.	Copper.	Iron.	Lead.	Magnesium.	Nickel.	Tin.	Zinc.	Miscellaneous.
Nickel Bronze :										
Acid-Resisting	—	—	83·9	—	6	—	2	8	—	P 0·1
Anti-Corrosive	—	—	80–90	—	—	—	2–10	1–8	—	Mn 0·2–5·0 : Cr, Sb and Si Traces
Bearing Alloy	—	—	84·5	—	—	—	5·0	10·5	—	—
,, ,, ...	—	—	75–83	—	—	—	6–12	6–12	—	Mn 0·5–4
,, ,, ...	—	—	80–90	—	—	—	2–10	1–8	—	—
,, ,, ...	—	—	85–86	—	—	—	2–2·7	11–12	—	P 0·1–0·2
,, ,, ...	—	—	80·2	—	Trace	—	5·5	11·5	2·8	—
,, ,, ...	—	—	71	—	20	—	4	5	—	—
,, ,, ...	—	—	50	—	—	—	25	25	—	—
,, ,, ...	—	—	Bal.	—	0–7	—	30–50	5–12	0·5–1	Si 0–1
Bearing Face of Sluice Valve	—	—	60	2	—	—	30	8	—	—
Brgs. for use with Soft Shafts	—	—	Bal.	—	5–7	—	30–50	5–7	0·5–1·0	Si Nil
,, ,, ,, ,, Semi-Hard Shafts	—	—	Bal.	—	7·0 (max.)	—	30–50	9–11	0·5–1·0	Si Nil
,, ,, ,, ,, Hard Shafts	—	—	Bal.	—	Nil	—	30–50	10–12	0·5–1·0	Si 0·5–1·0
Castings (Brgs. for Soft Shafts)	—	—	76·7	—	12·0	—	1·0	10·0	—	P 0·30
Castings (Gen. Purp. Brgs. for Semi-Hard Shafts) ...	—	—	80·7	—	8·0	—	1·0	10·0	—	P 0·30
Castings (Hvy. Duty—Rollg. Mills, &c.)	—	—	81·7	—	5·0	—	1·0	12·0	—	P 0·30
Castings (Sand—Valve Bodies, etc.)	—	—	88·0	—	—	—	5·0	5·0	2·0	—
Castings, H.T., for Wear Res.	—	—	83·0	—	—	—	8·0	7·0	2·0	Mn 0·25
Castings (Sand, Gen. Purp.)	—	—	88·25	—	—	—	1·0	10·5	—	P 0·25
,, ,, ,, ,,	—	—	83·0	—	—	—	8·0	7·0	2·0	Mn 0·25
,, High Duty, H.T. ...	—	—	88·0	—	—	—	5·0	5·0	1·75	Mn 0·25
,, Pressure-Resistant	—	—	87·25	—	—	—	0·75	9·0	3·0	—
D.I.N. Tent. Specn. E. 1716	—	—	59–70	—	20–33	—	0–4	0–8	0–3	—
For Superheated Steam ...	—	—	Bal.	—	—	—	8–10	6–10	—	—
Hydraulic Bronze	—	—	83	—	5	—	2	5	5	—
Ship's Fittings	—	—	89·5	—	1	—	1	7	1·5	—
Steam Bronze	—	—	Bal.	—	2·0 (max.)	—	0·5	6·0	4·0	—
Valves for S.H. Steam ...	—	—	74	—	—	—	14	4	8	—

Description of Alloy.	Alu-minium.	Chrom-ium.	Copper.	Iron.	Lead.	Mag-nesium.	Nickel.	Tin.	Zinc.	Miscellaneous.
Nickel Bronze—Contd.										
Valves for S.H. Steam ...	—	—	59	—	—	—	33	8	—	—
Worm Wheels (Centrif. Cast) *See also* Phosphor Bronze	—	—	88	—	—	—	0·5	11·2	—	P 0·03
Nickel-Cadmium Alloys:										
Bearing Alloy	—	—	—	—	—	—	0·75–3	—	—	Cd Bal.
Nickel-Chromium Alloys:										
Elect. Heat. Elem. (Drawn or Rolled)	—	19–20	—	1·5 (max.)	—	—	77–79	—	—	C 0·25 (max.) : Si 0·40 (max.) : S 0·03 (max.) : Mn 2·5 (max.)
Heat-Resisting	—	11	—	—	—	—	89	—	—	—
,, ,, ...	—	15	—	—	—	—	85	—	—	—
,, ,, ...	—	20	—	—	—	—	80	—	—	—
,, ,, ...	—	21·00	—	0·68	—	—	77·59	—	—	C 0·15 : Mn 0·58
,, ,, ...	—	19·04	0·13	0·88	—	0·05	79·70	—	—	C 0·09 : S 0·012 : Si 0·10
Low Thermal Conductivity	—	19·5–20	—	1·0 (max.)	—	—	Bal.	—	—	—
Nickel-Chromium (Complex) Als:										
Heating or Resistance Wire	1–4·5	20–25	—	—	—	—	70–74	—	—	Si 1·5–4
Resistance Wire	3–6	6–20	3–15	—	—	—	58–74	—	—	Mn 0–2
Sparking Plugs	—	4–10	—	—	—	—	88–94	—	—	Ba 0·4–0·6 : Mn 1·5–2·0
Sparking Plugs, Radio, etc.	—	10–12	—	—	—	—	82–86	—	—	Mn 1–3 : Si 2–4
Nickel-Chromium-Iron Alloys:										
Anti-Corrosive Alloys ...	—	12	—	23	—	—	65	—	—	—
Carburising Boxes	—	16–22	—	Bal.	—	—	30–50	—	—	—
,, ,, ...	—	12	—	28	—	—	60	—	—	—
Cast F'ce Resistors (Hi. Temp.)	—	19–21	—	Bal.	—	—	66–68	—	—	—
,, ,, ,, (Med. ,,)	—	17–20	—	Bal.	—	—	35–38	—	—	—
Cold-Working Alloy ...	—	10	—	30	—	—	60	—	—	—
Containers for Nitriding ...	—	12·5	—	25·5	—	—	62	—	—	—
,, ,, ,, ...	—	28	—	5	—	—	67	—	—	—
Containers for Tar and Oil Treatment	—	10–15	—	Bal.	—	—	60–65	—	—	C Low

PERCENTAGE COMPOSITION OF NON-FERROUS ALLOYS—(*continued*).

Description of Alloy.	Aluminium.	Chromium.	Copper.	Iron.	Lead.	Magnesium.	Nickel.	Tin.	Zinc.	Miscellaneous.
Nickel-Chromium-Iron Alloys : Contd.										
Corrosion-Resisting... ...	—	10·80	—	28	—	—	58·1	—	—	Mn 2 : C 0·35
,, ,, ...	—	20 (min.)	—	28–40	—	—	30 (min.)	—	—	C 0·5–1·0
Electrical Heating Elements	—	14–18	—	Bal.	—	—	57 (min.)	—	—	C 0·25 (max.) : Si 0·40 (max.) : S 0·03 (max.) : Mn 3·0 (max.)
,, ,, ,,	—	15	—	25	—	—	60	—	—	—
Electrical Heating Elements (to 850° C.)	—	12–15	—	Bal.	—	—	60–65	—	—	—
Electrical Heating Elements	—	13	—	23·6	—	—	62	—	—	Mn 1·4
,, ,, ,,	—	13·44	—	7·80	—	—	78·55	—	—	Mn 0·21
Electrical Heating Elements (to 900° C., air.) ...	—	15	—	19	—	—	65	—	—	Mn 1
Growth-Resistant	—	30–32	—	Bal.	—	—	45–48	—	—	C 1·0–1·9
Heat-Resisting	—	28–40	1·55	20 (min.)	—	—	18–40	—	—	—
High Permeability	—	11	—	34	—	—	55	—	—	—
" Loading " Alloy	—	2·0	—	19·5	—	—	78·5	—	—	—
Pickling Equipment ...	—	12	—	23	—	—	65	—	—	—
Radio Tubular Resistance Unit	—	11	—	25	—	—	64	—	—	—
Tableware	—	10–17	—	0·1–5·0	—	—	Bal.	—	—	C 0·03–0·5 : Si Trace : Mn Trace
Nickel-Chromium-Iron-Cobalt Alloys :										
Heat-Resisting	—	28–40	—	20 (min.)	—	—	18–40	—	—	Co 1–10
Nickel-Chromium-Iron (Complex) Alloys :										
Acid-Resistant	—	15	—	15	—	—	60	—	—	Mo 7 : Be 0·6 : Mn 1·8 : Si 0·6
,, ,, ...	—	12·5	—	13	—	—	62	—	—	Mn 2 : Mo 3 : Co 3 : W 3·5 : Si 0·4 : C 0·05

Description of Alloy.	Aluminium.	Chromium.	Copper.	Iron.	Lead.	Magnesium.	Nickel	Tin.	Zinc.	Miscellaneous.
Nickel-Chromium-Iron (Complex) Alloys:—Contd. ...										
Acid-Resistant	—	15	—	18	—	—	61	—	—	Mn 2 : Mo 4
,, ,, ...	—	15	—	14	—	—	58	—	—	Mn 2 : W 5 : Co 3 : Mo 3
,, ,, ...	—	15	—	23	—	—	53	—	—	Mn 1·25 : Si 3·75 : W 4·0
,, ,, ...	—	15	—	15	—	—	61	—	—	Mn 2 : Mo 7
Corrosion-Resisting... ...	1·43	14·95	—	23·82	—	—	54·48	—	—	S 0·16 : Si 2·03 : Mn 2·84
Heat-Resisting	—	10–25	—	Bal.	—	—	20–50	—	—	Co 10 (max.) : W+Mo 8 (max.) : C 1
,, ,, ...	—	10–25	—	Bal.	—	—	20–50	—	—	Mn 1–5 : W 0·5–8 : C 0·1 (max.) : Mo 5·0 (max.)
,, ,, ...	—	10–25	—	Bal.	—	—	20–50	—	—	W+Mo 8 (max.) : C 1
,, ,, ...	—	15	—	16	—	—	60	—	—	Mo 7 : Mn 2
Hi. Temp. Sulphur-Resistant	10	15	—	20	—	—	51	—	—	Mn 4
Nitric Acid Resisting ...	—	21	—	40·8	—	—	30	—	—	W 6·2 : Si 0·45 : Mn 1·55
,, ,, ,, ...	—	15	—	23	—	—	53	—	—	W 4 : Si 3·75 : Mn 1·25
Seamless Tubing	—	15	—	15	—	—	60	—	—	Co 3 : Mo 3 : C 0·05 (max.)
Sulphur-Resistant	10	13·5	—	18	—	—	54·9	—	—	Mn 3·6
Nickel-Chromium-Iron-Manganese Alloys:										
Heat-Resistant	—	15	—	20	—	—	61	—	—	Mn 4
Nickel-Chromium-Iron-Molybdenum Alloys:										
Acid-Resisting	—	10–40	—	0–20	—	—	55–85	—	—	Mo 5–15
,, ,, ...	—	15	—	19·5	—	—	61	—	—	Mn 2 : Mo 2·5
,, ,, ...	—	27–22·4	—	28–40	—	—	37·5–31	—	—	C 1–1·5 : Mo 5·5 –4·6

PERCENTAGE COMPOSITION OF NON-FERROUS ALLOYS—(*continued*).

Description of Alloy.	Aluminium.	Chromium.	Copper.	Iron.	Lead.	Magnesium.	Nickel.	Tin.	Zinc.	Miscellaneous.
Nickel-Chromium-Iron-Molybdenum Alloys: Contd.										
Dental Alloy	—	10–30	—	0–20	—	—	65–80	—	—	Mo 5–15 : C Nil
Heat-Resistant	—	10–25	—	Bal.	—	—	20–50	—	—	C 1 : Mo 0·2–5·0
,, ,, ...	—	15	—	15	—	—	63	—	—	Mo 7
Surgical Instruments ...	—	10–40	—	1–40	—	—	80–50	—	—	Mo 0·2–12·0 : C 0·05 (max.)
Turbine Blading	—	15	—	10	—	—	65	—	—	Mo 7
Nickel-Chromium-Iron-Silicon Alloys:										
Loaded Signalling Conductors	—	20	—	30·5	—	—	36·5	—	—	Si 13
Nickel-Chromium-Iron-Tungsten Alloys:										
Acid-Resisting Alloys ...	—	10–40	—	0–20	—	—	55–85	—	—	W 5–15
Dental Alloy	—	10–3	—	0–20	—	—	65–80	—	—	W 5–15 : C Nil
For Furnace Work	—	10–20	—	Bal.	—	—	60–80	—	—	W 0–4 : Si 0–2
Heat-Resistant	—	10–25	—	Bal.	—	—	20–50	—	—	W 0·5–8 : C 1
Turbine Blading	—	10–40	—	10–40	—	—	40–85	—	—	W 0–10 : C Nil
Nickel-Chromium-Manganese Alloys:										
Stitching Wire	—	18	—	—	—	—	74·5	—	—	Mn 7·5
Thermal Recorder	—	10	—	—	—	—	88	—	—	Mn 2
Nickel-Chromium-Manganese-Molybdenum Alloys:										
Pyrometric Standard ...	—	10–25	—	—	—	—	90–70	—	—	Mn 1–3 : Mo 0–5 : C 0·2–0·6
Nickel-Chromium-Manganese-Tungsten Alloys:										
Pyrometric Standard ...	—	10–25	—	—	—	—	90–70	—	—	Mn 1–3 : W 0–5 : C 0·2–0·6
Nickel-Chromium-Molybdenum Alloys:										
Acid-Resisting	—	15	—	—	—	—	Bal.	—	—	Mo 7
"Best against Salt Spray Test and Nitric Acid"	—	32	—	—	—	—	65	—	—	Ag 1 : Mo 2

Description of Alloy.	Aluminium.	Chromium.	Copper.	Iron.	Lead.	Magnesium.	Nickel.	Tin.	Zinc.	Miscellaneous.
Nickel-Chromium-Silicon Alloys:										
Heat-Resisting Alloy ...	—	25–30	—	—	—	—	Bal.	—	—	Si 16–18
Nickel-Chromium-Tungs'n Als. :										
Heat-Resisting	—	7·5–77	—	—	—	—	1–70	—	—	W 3–77
High-Speed Tools	—	15–40	—	—	—	—	15–50	—	—	W 15–35 : B 0·5–2·5 : C 0·75–2·5
Nickel-Cobalt Alloys :										
Range for Silvery-White Deposit	—	—	—	—	—	—	55–75	—	—	Co 45–25
Nickel-Cobalt-Iron Alloys :										
Constant Permeability ...	—	—	—	30	—	—	45	—	—	Co 25
,, ,, ...	—	—	—	25	—	—	60	—	—	Co 15
Continuous Loading of Tel. Condrs., etc.	—	—	—	30·69	—	—	45·12	—	—	Co 23·83
High Permeability	—	—	—	30	—	—	45	—	—	Co 25 : Si 2·5 (max.)
Low Thermal Expansion ...	—	—	—	40–70	—	—	20–60	—	—	Co 35 (max.)
Magnetic Alloys (Range) ...	—	—	—	5–45	—	—	9–81	—	—	Co 4–80
Metal to Glass Seals ...	—	—	—	Bal.	—	—	15–30	—	—	Co 12–40 : C 0-0·5 : Mn 0–1
Nickel-Cobalt-Iron (Complex) Alloys :										
Magnetic Alloys (Range) ...	—	1–5	—	15–25	—	—	55–65	—	—	Co 20–30
,, ,, ,, ...	—	10 (max.)	—	9–50	—	—	9–81	—	—	Co 5–80 : Mo 10 (max.)
Nickel-Cobalt-Manganese Alloys:										
High Permeability	—	—	—	—	—	—	75–85	—	—	Mn 7–12 : Co Bal.
Nickel-Copper Alloys :										
Castings	0·5 (max.)	—	23 (min.)	3·5 (max.)	—	—	60 (min.)	—	—	Mn 3·5 (max.) : C+ Si 2·0 (max.)
General Engineering Alloys	—	—	35–30	—	—	—	65–70	—	—	—
Low Thermal Conductivity	—	—	33–28	—	—	—	67–72	—	—	—
"Most Resistant to Corrosion"	—	—	50	—	—	—	50	—	—	—
Rods, Bars, etc.	0·5 (max.)	—	23 (min.)	3·5 (max.)	—	—	60 (min.)	—	—	Mn 3·5 (max.) : C 0·3 (max.) : Si 0·5 (max.)

PERCENTAGE COMPOSITION OF NON-FERROUS ALLOYS—(*continued*).

Description of Alloy.	Aluminium.	Chromium.	Copper.	Iron.	Lead.	Magnesium.	Nickel.	Tin.	Zinc.	Miscellaneous.
Nickel-Copper Alloys: Contd.										
Temperature Compensation (*See also* Monel Metal)	—	—	40–20	Trace	—	—	60–80	—	—	—
Nickel-Copper-Aluminium Als.:										
Non-Corrosive Forging Alloys	2–3·5	—	25–40	—	—	—	60–75	—	—	C 0·03–0·4
,, ,, ,, ,,	4·5	—	5	—	—	—	90	—	—	—
Nickel-Copper-Iron Alloys:										
Chemical Apparatus ...	—	—	27	5	—	—	68	—	—	—
Driving Field in Induction Meters	—	—	30	3–2	—	—	67–68	—	—	—
Ferro-Magnetic Alloy ...	—	—	30	2·5	—	—	66	—	—	—
High Permeability	—	—	14–16	14–15	—	—	Bal.	—	—	—
Malleable	—	—	20–40	40–60	—	—	20–40	—	—	—
Nickel-Copper-Iron-Manganese Alloys:										
Valve Seats	—	—	28	2	—	—	67	—	—	Mn 2 : C 1
Nickel-Copper-Iron-Molybdenum Alloys:										
1040 Alloy	—	—	14	11	—	—	72	—	—	Mo 3
Nickel-Copper-Manganese Alloys:										
Corr.-Res. (S.H. Steam, etc.)	—	—	30–40	—	1·0 (max.)	—	40–50	1–10	—	Mn 10–20 : Sb 5–15
For High Temp. Duty ...	—	—	29·30	—	—	—	68·35	—	—	Mn 2·35
Steam-Resisting	—	—	28·9	—	—	—	68·2	—	—	Mn 1·6 : C 0·2
Nickel-Copper-Silicon Alloys:										
Hard Alloy	—	—	20–40	—	—	—	Bal.	—	—	Si 1–6
,, ,, ...	—	—	20–40	—	—	—	Bal.	—	—	Si 1–4 : Be 0–2
High-Strength Alloy ...	—	—	43·5–6·5	—	—	—	55–80	—	—	Si 1–5
Nickel-Copper-Silver Alloys:										
Cutlery, Tableware, etc. (Range)	—	—	27–37	—	—	—	55–65	—	—	Ag 3–13
,, ,, ,, (Typical)	—	—	32	—	—	—	60	—	—	Ag 8
Nickel-Copper-Tin Alloys:										
Valves (Cast)	—	—	32	Trace	—	—	51·5	15·5	—	Mn Trace
,, (S.H. Steam) ...	—	—	40	—	—	—	50	10	—	—
Nickel-Copper-Tin-Iron Alloys:										
Valve Seats	—	—	26	1·5	—	—	60	11	—	—

Description of Alloy.	Alu-minium.	Chrom-ium.	Copper.	Iron.	Lead.	Mag-nesium.	Nickel.	Tin.	Zinc.	Miscellaneous.
Nickel-Copper-Tin-Silicon Alloys:										
Steam Valves	—	—	39	—	—	—	50	8	—	Si 3
,, ,, ...	—	—	27·5	—	—	—	65	4	—	Si 3·5
Nickel-Copper-Tungsten Alloys:										
Corr.-Resist't (Sulph. Acid,etc.)	—	—	20	—	—	—	78	—	—	W 2
,, ,, ,, ,, ,,	—	—	45	—	—	—	50	—	—	W 5
,, ,, ,, ,, ,,	—	—	15	—	—	—	75	—	—	W 10
Nickel-Copper-Zinc Alloys:										
Ornamental Castings ...	—	—	33·33	—	—	—	33·33	—	33·33	—
Welding Alloy	—	—	Bal.	—	—	—	15–60	—	25 (max.)	—
,, ,, ...	—	—	Bal.	4 (max.)	—	—	15–60	—	25 (max.)	Mn 4 (max.) : Si 4 (max.)
Nickel-Iron Alloys:										
High Permeability	—	—	—	50	—	—	50	—	—	—
Nickel-Iron (Complex) Alloys:										
Cutlery, Tableware, Range...	—	—	—	45–55	—	—	37–47	—	—	Ag 3–13
,, ,, Typical	—	—	—	50	—	—	42	—	—	Ag 8
High Magnetic Permeability	—	Nil	0–10	15–60	—	—	25–80	—	—	Ag 0·05–10 : Mn 0·1–10
,, ,, ,,	—	2	—	14	—	—	82	—	—	Si 2
,, ,, ,,	—	—	—	14	—	—	82	—	—	Si 2 : Mo 2
,, ,, ,,	—	—	—	14	—	—	82	—	—	Si 2 : V 2
,, ,, ,,	—	—	—	14	—	—	82	—	—	Si 2 : W 2
,, ,, ,,	—	—	—	14	—	—	82	—	—	Si 2 : Cr, Mo, V and W (total) 2 (max.)
,, ,, ,,	—	2·7 (max.)	—	10·5	—	—	Bal.	—	—	Si 2·2
,, ,, ,,	—	—	—	10·5	—	—	Bal.	—	—	Si 2·2 : Mo 2·7 (max.)
,, ,, ,,	—	—	—	10·5	—	—	Bal.	—	—	Si 2·2: V 2·7 (max.)
,, ,, ,,	—	—	—	10·5	—	—	Bal.	—	—	Si 2·2: W 2·7 (max.)
,, ,, ,,	—	—	—	10·5	—	—	Bal.	—	—	Si 2·2 : Cr, Mo, V and W (total) 2·7 (max.)
,, ,, ,,	—	1·75–2·25	5	16	—	—	76	—	—	Mn Low
,, ,, ,,	—	—	5	16	—	—	76	—	—	Mn Low : Si 1·75–2·25

PERCENTAGE COMPOSITION OF NON-FERROUS ALLOYS—(*continued*).

Description of Alloy.	Aluminium.	Chromium.	Copper.	Iron.	Lead.	Magnesium.	Nickel.	Tin.	Zinc.	Miscellaneous.
Nickel-Iron (Complex) Alloys: —Contd.										
High Magnetic Permeability	—	—	5	16	—	—	76	—	—	Mn Low : Ti 1·75–2·25
,, ,, ,,	—	—	5	16	—	—	76	—	—	Mn Low : Mo 1·75–2·25
,, ,, ,,	—	—	5	16	—	—	76	—	—	Mn Low : W 1·75–2·25
Low Expansion Alloy ...	—	—	—	46–70	—	—	23–53	—	—	Co 34 (max.)
Magnetic Alloy	—	—	—	15–33	—	—	65–80	—	—	Co, Mo and Si (each) 0·05–10
,, ,, ...	—	—	—	Bal.	—	—	47·0	—	—	Mn 0·8 : Si 0·2 : Mo 3.0 : Be 0·5
Nickel-Iron-Copper Alloys:										
High Permeability	—	—	3–10	35–55	—	—	35–55	—	—	—
Nickel-Iron-Manganese Alloys:										
Low Temp. Coeff. of Elec. Res.	—	—	—	43·6	—	—	42·8	—	—	Mn 14·17 : C 0·18
,, ,, ,, ,, ,, ,,	—	—	—	40·1	—	—	45·3	—	—	Mn 14·59 : C 0·31
Nickel-Iron-Silicon Alloys:										
Corrosion-Resisting (Range)	—	—	—	Bal.	—	—	20–60	—	—	Si 3–9
,, ,, (Typical)	—	—	—	35·5	—	—	60	—	—	Si 4·5
,, ,, ,,	—	—	—	47	—	—	48·5	—	—	Si 4·5
High Permeability	—	—	—	17·5	—	—	78·5	—	—	Si 4
,, ,, ...	—	—	—	15–28	—	—	63–80	—	—	Si 5–20
Nickel-Manganese Alloys:										
Resistances (Radio Equipmt.)	—	—	—	—	—	—	Bal.	—	—	Mn 1–2
Sparking Plugs	—	—	—	—	—	—	98	—	—	Ba 0·1 : Mn 1·8
,, ,, ...	—	—	—	—	—	—	Bal.	—	—	Mn 2·5–4
,, ,, and Dental Indy.	—	—	—	—	—	—	Bal.	—	—	Mn 3–5
Nickel-Molybdenum Alloys:										
Resistant to Hot HCl ...	—	—	—	—	—	—	57	—	—	Mo 20 : C 0·2 : Si 0·5 (max.) : Mn 3·0 (max.)
Nickel-Molybdenum-Iron Alloys:										
Acid-Resisting	—	—	—	20	—	—	60	—	—	Mo 20

Description of Alloy.	Alu-minium	Chrom-ium.	Copper.	Iron.	Lead.	Mag-nesium.	Nickel	Tin.	Zinc.	Miscellaneous.
Nickel-Molybdenum-Iron Alloys: —Contd.										
Anti-Corrosive	—	—	—	10–30	—	—	40 (min.)	—	—	Mo 15–40
Loading Alloys	—	—	—	10–50	—	—	45–85	—	—	Mo 1–10
Very Resistant to Cold Acids (except HNO_3)	—	—	—	20	—	—	Bal.	—	—	Mn 3 (max.) : Mo 20 : C 0·2 (max.) : Si 0·5 (max.)
Nickel Oreide	—	—	65·50	—	—	—	2	—	32·66	—
,, ,, ...	—	—	64	—	—	—	4	—	32	—
,, ,, ...	—	—	63·33	—	—	—	5	—	31·66	—
,, ,, ...	—	—	86·66	—	—	—	6·66	—	6·66	—
,, ,, ...	—	—	63·33	—	—	—	6	—	30·66	—
Nickel-Ruthenium Alloys:										
Pen Points	—	—	—	—	—	—	60–61	—	—	Ru 40–39
Nickel-Silicon Alloy:										
Chemical Apparts. & Electrodes	—	—	—	—	—	—	77	—	—	Si 23
Corrosion-Resisting... ...	—	—	—	—	—	—	75–80	—	—	Si 25–20
Hardener	—	—	—	—	—	—	50	—	—	Si 50
Nickel-Silicon (Complex) Alloys:										
Resisting Dilute HCl (10% max.)	2	—	3	—	—	—	85	—	—	Si 10
Sparking Plugs, Radio, etc.	—	—	—	—	—	—	93–97	—	—	Si 2–4 : Mn 1–3
Strong and Anti-Corrosive ...	5	—	2·5–3	—	—	—	Bal.	—	—	Si 10 : Mo Nil
Strong Corr.-Res Castgs. ...	1·5–2·0	—	3	—	—	—	Bal.	—	—	Si 10
Nickel Silver :										
Back Case Metal	—	—	62	—	—	—	18	—	20	—
Cast Alloys (Range) ...	—	—	Bal.	—	2–10	—	12–30	6 (max)	5–15	—
Castings, Gen. Purpose ...	—	—	45	—	—	—	35	—	20	—
,, ,, ,, ...	—	—	50	0·25	4	—	18	1	26·5	Mn 0·25
,, ,, ,, ...	—	—	54	—	2	—	14	2	28	—
,, Hard	—	—	45	—	—	—	15	2	38	—
,, Hvy, of uneven sectn.	—	—	Bal.	1·0 (max.)	4 (max.)	—	18–22	2·5–4·0	19–15	Mn 0·25 (max.)
,, Light, of even sect., max. fluidity	—	—	Bal.	1·0 (max.)	4–7	—	18–22	2·5–4·0	15–20	Mn 0·25 (max.)
,, (U.S. Fed. Spec. No WWP 541)	—	—	62 (min.)	1·0 (max.)	6 (max.)	—	19 (min.)	2·5–4·0	10 (max.)	Mn 1·0 (max.)

PERCENTAGE COMPOSITION OF NON-FERROUS ALLOYS—(*continued*).

Description of Alloy.	Aluminium.	Chromium.	Copper.	Iron.	Lead.	Magnesium.	Nickel.	Tin.	Zinc.	Miscellaneous.
Nickel Silver :—Contd.										
Cocks and Taps (Cast) ...	—	—	57·0	1·0	7·0	—	15·0	2·5	17·5	Mn Trace
Cold-Working Alloys ...	—	—	Bal.	—	—	—	10–30	—	10–30	—
,, ,, ,, ...	—	—	Bal.	—	1–3 (opt.)	—	10–30	—	5–30	—
Die-Casting Alloy	1	—	48	—	—	—	18·5	—	32·5	—
,, ,, ,, ...	—	—	42	—	1	—	16	—	41	—
Flat Ware Stock	—	—	53	—	—	—	21	—	26	—
Food Equipment Alloy ...	0·25	0·10	44	—	—	—	14	1·5	38	Mo 1·5 : Mn 0·5
H.P. Steam Fittings (Cast)	—	—	70	—	—	—	20	—	10	—
Hot-Working Alloys ...	—	—	Bal.	—	—	—	6–16	—	38–45	—
Hot-Working & Extruding Alloys	—	—	Bal.	—	—	—	8–18	—	38–45	—
Key Stock	—	—	60	—	2	—	12	—	26	—
,, ,, ...	—	—	65	—	1	—	12	—	22	—
Knife Bolsters	—	—	68	—	0·5	—	15	—	16·5	—
,, ,, ...	—	—	56	—	—	—	16	—	28	—
Milling Alloy	—	—	56	—	1	—	12	—	31	—
,, ,, ...	—	—	56·5	—	0·5	—	15	—	28	—
,, ,, ...	—	—	54	—	0·5	—	18	—	27·5	—
Naubuc Knife Stock ...	—	—	58	0·75	—	—	25	—	16·25	—
Optical Wire	—	—	55	—	—	—	18	—	27	—
Ornaments	—	—	55	—	—	—	20	—	25	—
Resistance Wire	—	—	56·5	—	—	—	18	—	25·5	—
Sheet	—	—	60	—	—	—	20	—	20	—
Ship's Fittings, Cocks, Taps, etc. (Cast)	—	—	60	—	—	—	20	—	20	—
Show-Case Metal	—	—	58	—	—	—	18	—	24	—
,, ,, ,, ...	—	—	59·5	—	—	—	18	—	22·5	—
Spoons, Forks, etc.	—	—	60	—	—	—	18	—	22	—
Tableware	—	—	50	—	—	—	25	—	25	—
Valve Fittings (Cast) ...	—	—	74	—	—	—	14	4	8	—
Wagner's Formula	—	—	50–66	—	—	—	13–18	—	19–31	—
Watch-Case Bezels	—	—	60	—	—	—	16	—	24	—
,, ,, ,, ...	—	—	63	—	—	—	16	—	21	—
,, ,, Metal	—	—	55–65	—	0–1	—	10–28	—	30–16	—

Description of Alloy.	Aluminium.	Chromium.	Copper.	Iron.	Lead.	Magnesium.	Nickel.	Tin.	Zinc.	Miscellaneous.
Nickel Silver :—Contd.										
White Metal for Untarnishable Fittings...	—	—	60–62	—	—	—	18–22	—	20–22	—
" White Nickel Brass " (Cast)	Nil	—	55–64	0·35 (max.)	—	—	18 (min.)	—	Bal.	Oth. Imp. 0·25 (max.)
Wrought Alloys (B.S.S. No. 790)	—	—	60–65	0·30 (max.)	0·025 (max.)	—	19–21	Trace	Bal.	Mn 0·50 (max.)
Nickel-Tantalum Alloys :										
Acid-Resisting	—	—	—	—	—	—	Bal.	—	—	Ta 5–10
,, ,, ...	—	—	—	—	—	—	70	—	—	Ta 30
Nickel-Tungsten Alloys :										
" Most Corrosion-Resistant "	—	—	—	—	—	—	82	—	—	W 18
Nickel-Tungsten (Complex) Alloy :										
High-Speed Tools	3–5	—	—	—	—	—	Bal.	—	—	W 5–12 : B 1 (max.) : Ti 6–12 : Si 3–6
Nickel-Uranium Alloys :										
Acid-Resisting Alloy ...	—	—	—	—	—	—	34	—	—	U 66
Nickel-Zinc-Molybdenum Alloys :										
Acid-Resisting	—	—	—	—	—	—	65	—	25	Mo 10
Nickelin (Resistance Alloy) ...	—	—	68	—	—	—	32	—	—	—
,, ,, ,, ...	—	—	67	—	—	—	30–31	—	—	Mn 2–3
Nickeline (Resistance Alloy) ...	—	—	75–55	—	—	—	18–32	—	0–20	—
,, ,, ,, ...	—	—	55	—	10	—	13	2	21	—
Nickeline (Stuffing Box Packing Rings)	—	—	4·76	0·14	0·43	—	Trace	85·38	0·28	Sb 8·84 : As 0·07
Nickeloid (Non-Corr., Food Equipment, etc.)	—	—	60	—	—	—	40	—	—	—
,, ,, ,, ,,	—	—	55	—	—	—	45	—	—	—
Nickeloy	—	—	—	50	—	—	50	—	—	—
,, ...	94	—	4·2	—	—	—	1·4	—	—	—
Nicla Brass (Cast & Wrt. Alloy)	1·25–1·5	—	Bal.	—	1·75–2·25	—	12–15	—	39–41	—
Nico Metal	—	—	90	—	—	—	10	—	—	—
Nico I	—	—	—	—	Bal.	—	2–3	4–5	—	Sb 23 (max.) : As and P—Some

PERCENTAGE COMPOSITION OF NON-FERROUS ALLOYS—(*continued*).

Description of Alloy.	Alu-minium.	Chrom-ium.	Copper.	Iron.	Lead.	Mag-nesium.	Nickel.	Tin.	Zinc.	Miscellaneous.
Nico II	—	—	—	—	Bal.	—	1	10	—	Sb 10 : As and P—Some
Nicral (Rollg. & Forg. Al., H.T.)	97·9	0·4	0·6	—	—	0·4	0·7	—	—	—
Nicral (Cast & Wrt., Hi. Fat. and Temp. Res.)	Bal.	0·25–0·5	0·25–1·0	—	—	0·25–0·5	0·5–1·0	—	—	—
Nicrite (Heat-Res. Alloy) ...	—	20	—	—	—	—	80	—	—	—
Nida Bronze (Drawn Tubing)	—	—	91–92	—	—	—	—	8–9	—	P Some
Niobium [Columbium]-Tantalum-Iron Alloy : Hardener and Tool Tips ...	—	—	—	20	—	—	—	—	—	Cb 60 : Ta 20 : C Nil
No-Heet (Brg. Al., Heavy Duty High Speed)	—	—	—	—	Bal.	—	—	—	—	Na 0·5–4·0
,, ,, ,, ,,	—	—	—	—	98·41	—	—	0·08	—	Sb 0·11 : Na 1·40
,, ,, ,, ,,	—	—	—	—	Bal.	—	—	0·08	—	Sb 0·11 : Na 1·3
Noil (Unlubricated Piston Rings)	—	—	80	—	—	—	—	20	—	—
Non-Gran	—	—	87	—	—	—	—	11	2	—
Non-Oxidisable Alloy (Lemarqd.)	—	—	39	—	—	—	7	9	37	Co 8
Nonpareil Antifriction Metal	—	—	Trace	—	78·35	—	—	4·95	—	Sb 16·70
Norbide (Deoxidiser, etc.) ...	—	—	—	—	—	—	—	—	—	B 78·22 : C (comb.) 21·0 : Fe, Si, etc. 0·78
Novalite (German Piston Alloy)	85·0	—	12·5	0·8	—	0·3	—	—	—	Mn 1·4
Novokonstant (Resistance Alloy)	4	—	82·5	1·5	—	—	—	—	—	Mn 12
Nu-Bronze	—	—	95·8	—	—	—	3·25	—	—	Mn 0·25 : Si 0·73
Nu-Gold	—	—	87·73	—	—	—	—	—	12·22	—
Nural (Rollg. & Forg. Al., H.T.—as Duralinox)	92·0	—	—	—	—	7·0	—	—	—	Mn 0·4 : Si 0·6
Nural 43 (Cast)	93·8	—	—	1·2	—	—	—	—	—	Si 5·0
Nurnberg Gold	7·5	—	90	—	—	—	—	—	—	Au 2·5
Oda Metal (Cast & Wrt. Corr.-Res. Al.)	—	—	45–65	0·5–3	—	—	27–45	—	—	Mn 1–10
Ohmal	—	—	87·5	—	—	—	3·5	—	—	Mn 9
Oilite (Self-Lubricating Brgs.)	—	—	88–90	—	—	—	—	10–12	—	P 0·1–0·2 : Oil 30–40% by vol.

Description of Alloy.	Aluminium.	Chromium.	Copper.	Iron.	Lead.	Magnesium.	Nickel.	Tin.	Zinc.	Miscellaneous.
Oker (Cast)	—	—	71·90	2·32	1·10	—	—	—	24·40	—
One Ton Brass...	—	—	61	—	—	—	—	1	38	—
Onions' Fusible Alloy... ...	—	—	—	—	30	—	—	20	—	Bi 50
Optical Bronze	—	—	89	—	—	—	—	4·5	6·5	—
Orahium Bronze S (Cor.-Res. Al)	3	—	97	—	—	—	—	—	—	—
,, ,, M ,, ,, ,,	5	—	95	—	—	—	—	—	—	—
,, ,, MH ,, ,, ,,	8·5	—	91·5	—	—	—	—	—	—	—
,, ,, H ,, ,, ,,	10	—	90	—	—	—	—	—	—	—
,, ,, HX ,, ,, ,,	11	—	89	—	—	—	—	—	—	—
,, ,, HH ,, ,, ,,	11·5	—	88·5	—	—	—	—	—	—	—
Oreide	—	—	87·25	—	—	—	—	1·25	11·50	—
,, ...	—	—	90	—	—	—	—	—	10	—
,, ...	—	—	85·5	—	—	—	—	—	14·5	—
,, ...	—	—	80·5	—	0·1	—	—	4·85	14·5	—
,, ...	—	—	80·5–90	—	—	—	—	—	19·5–10	—
,, (Brunswick)	—	—	68·21	—	—	—	—	0·48	31·52	—
Ormulu	—	—	58	—	—	—	—	16·7	25·3	—
,, Large	—	—	90·5	—	—	—	—	6·5	3·0	—
,, Small	—	—	94·12	—	—	—	—	5·88	—	—
Osmagal (Rollg. & Forg. Al., as Aluman)	98·2	—	—	—	—	—	—	—	—	Mn 1·8
Osmium-Rhodium-Platinum Als.: Pen Points	—	—	—	—	—	—	—	—	—	Os 85 : Rh 10 : Pt 5
Ounce Metal (Gen. Purp. Castgs.)	—	—	85	—	5	—	—	5	5	—
,, ,, ,, ,, ,,	Nil	—	84–86	0·25 (max.)	4–6	—	0·75 (max.)	4–6	4–6	Sb 0·25 (max.) : P 0·05 (max.) : S 0·05 (max.) : Tot. Oth. Imp. 0·15 (max.)
P 2 (Pressure Die-Castg. Al., not H.T.)	Bal.	—	3·0–4·5	2·0–4·0	—	0·5 (max.)	1·75–2·5	—	—	Si 4·0–5·0 : Mn 0·5 (max.)
P.M.G. Metal (Cast & Wrt., Corr. & Heat-Res.) ...	—	—	91·5	2·0	—	—	—	—	2·0	Mn 0·5 : Si 4·0
,, ,, ,, ,,	—	—	91·65	2·10	—	0·17	Trace	—	1·63	Mn 0·22 : P 0·12 : Si 4·00

PERCENTAGE COMPOSITION OF NON-FERROUS ALLOYS—(*continued*).

Description of Alloy.	Aluminium.	Chromium.	Copper.	Iron.	Lead.	Magnesium.	Nickel.	Tin.	Zinc.	Miscellaneous.
P.M.G. Metal, Grade 19 (D.T.D. 355)	—	—	Bal.	1·4–2·0	—	—	—	—	1·5–2·5	Mn 1·0 (max.) : P 0·1 (max.) : Si 3·0–4·0
Pack Alloy (Die-Casting Alloy)	90·5	—	4·0	—	—	—	4·0	—	—	Si 1·5
Packfong—*See* Pai-t'ung or Paktong										
Pai-t'ung—White Copper ...	—	—	26–40	0–2·6	—	—	16–37	—	41–32	—
Paktong : Pai-t'ung or White Copper :—										
Cookson, Ltd. (White) ...	—	—	40·9	2·5	0·23	—	11·1	—	45	Co 0·16
Fyfe (1822)	—	—	40·4	2·6	—	—	31·6	—	25·4	—
Keferstein	—	—	26·3	—	—	—	36·8	—	36·8	—
Peat (1923), Dark	—	—	57·9	2·5	—	—	7·7	—	32·2	—
Thurston (Fyfe)	—	—	43·8	—	—	—	15·6	—	40·6	—
Palau (Platinum Substitute) ...	—	—	—	—	—	—	—	—	—	Au 80 : Pd 20
Palladium-Copper (Complex) Alloys :—										
Unmagnetisable Watch Wheels	—	—	25	—	—	—	1	—	—	Pd 70 : Ag 4
Palladium Gold	—	—	39·65	—	—	—	—	—	—	Au 90–80 : Pd 10–20
,, ,, ...	—	—	—	—	—	—	—	—	—	Ag 19 : Au 31 Pd 10·35
,, ,, (Dental Alloy)	—	—	—	—	—	—	—	—	—	Pd 60–50 : Au 40–50
Palladium-Silver Alloys :										
Contacts	—	—	—	—	—	—	—	—	—	Pd 40–80 : Ag Bal.
Panseri Alloy (Italian Piston Al.)	82·6	—	1·0	—	—	0·4	4·5	—	—	Si 11·5
Pantal (Wrt. Alloy—H.T.) ...	Bal.	—	—	—	—	0·8–2	—	—	—	Mn 0·4–1·4 : Si 0·5–1 : Ti 0·3
,, ,, ,, ,, ...	Bal.	—	—	0·3	—	0·8	—	—	—	Mn 0·7 : Si 0·8
,, 5 (Cast Alloy—H.T.) ...	93·8	—	—	—	—	0·6	—	—	—	Si 5·0 : Mn 0·6
,, ,, ,, ,, ,, ...	93·7	—	—	—	—	0·6	—	—	—	Si 5·0 : Mn 0·6 : Ti 0·1
Parker's Chrome Alloy ...	—	10	60	—	—	—	10	—	20	—
Parr Non-Corrosive Alloy ...	—	15	5	—	—	—	80	—	—	—
,, ,, ,, ,, ...	2·0	18	8·5	—	—	—	66	—	—	Mn 1 : W 3·3 : Ti 0·2 : B 0·2

Description of Alloy.	Alu-minium.	Chrom-ium.	Copper.	Iron.	Lead.	Mag-nesium.	Nickel.	Tin.	Zinc.	Miscellaneous.
Parsons' Bronze (original) ...	1·00	—	58·00	—	—	—	—	—	40·00	Mn 1·00
,, ,, ...	—	—	56·60	1·50	—	—	—	1·20	40·5	Mn 0·10
,, ,, (Castings) ...	0·47	—	56·1	1·30	—	—	—	0·75	41·3	Mn Trace
,, ,, (Sheets) ...	—	—	60·3	1·40	—	—	—	0·75	37·6	Mn 0·10
Parsons' Mota Metal B (Highly-Stressed Brgs.)	—	—	4–6	—	—	—	—	85–87	—	Sb 8·5–9·5
Parsons' No. 1 Manganese Bronze (Wrt., Corr.-Res.)	1	—	57–58	1	—	—	0·2	0·5	Bal.	Mn 1
Parsons' No. 2 Manganese Bronze (Propellers) ...	0·25	—	57	1	—	—	—	1	40·5	Mn 0·25
Parsons' White Brass "Star" (Brg. Al.)	—	—	3–4·5	—	14–15	—	—	74–76	—	Sb 7–8
Partinium	88·5	—	7·4	1·3	—	—	—	—	1·7	Si 1·1
,, ...	Bal.	—	0·64	—	—	—	—	0·16	—	Sb 2·4 : W 0·8
Pattern Metal	—	—	3	—	42	—	—	15	40	—
,, ,, ...	—	—	—	—	30	—	—	40	30	—
,, ,, ...	—	—	—	—	20	—	—	40	40	—
,, ,, ...	—	—	83	—	3	—	—	4	10	—
Peerless (Resistance Alloy) ...	—	16·5	—	3	—	—	78·5	—	—	Mn 2
Peraluman 2 (Wrt. Cor.-Res. Al.)	Bal.	—	—	—	—	2·15	—	—	—	Mn 1·4
,, ,, ,, ,, ,, ,,	Bal.	—	—	—	—	2–2·5	—	—	—	Mn 1·5
,, ,, ,, ,, ,, ,,	Bal.	—	0·1 (max.)	0·3 (max.)	—	2	—	—	—	Si 0·3 (max.) : Mn 1·4
,, ,, ,, ,, ,, ,,	Bal.	—	—	—	—	2–2·5	—	—	—	Mn 1–2 : Sb 0–0·2
,, ,, (Round Bar) ...	Bal.	—	0·02	0·22	—	2·20	—	—	—	Mn 1·45 : Si 0·25
,, 5 (Wrt.)	Bal.	—	—	0·3 (max.)	—	5	—	—	—	Mn 0·5 : Si 0·3 (max.) : Ti 0·1
,, 5–7 (Wrt.) ...	Bal.	—	—	—	—	2·5–12	—	—	—	Mn 0–1·5
,, 7 (Cast or Wrt. Alloy)	Bal.	—	—	—	—	4–12	—	—	—	Mn 0–1 : Sb 0–1 : Si 0·1–1·5
,, 7 (Rollg. & Forg. Al., *as* Duralinox) ...	92·5	—	—	—	—	7·0	—	—	—	Mn 0·5
,, ,, ,, ,,	Bal.	—	—	—	—	6·8	—	—	—	Mn 0·45 : Si 0·3 (max.) : Ti 0·1
Percit—*as* Stellite										

PERCENTAGE COMPOSITION OF NON-FERROUS ALLOYS—(*continued*).

Description of Alloy.	Aluminium.	Chromium	Copper.	Iron.	Lead.	Magnesium.	Nickel.	Tin.	Zinc.	Miscellaneous.
Perking Brass	—	—	76·2	—	—	—	—	23·8	—	—
,, ,, ...	—	—	80	—	—	—	—	19·82	0·14	—
Permafy (Hi. Permy. at low field strengths)	—	—	—	20	—	—	80	—	—	—
Permalloy (Hi. Permy. at low field strengths)	—	—	0·10	21·35	—	—	78·23	—	—	C 0·04 : Si 0·03 : S 0·035 : P Tr. : Mn 0·22 : Co 0·37
,, ,, ,, ,,	—	—	—	22	—	—	78	—	—	—
,, ,, ,, ,,	—	—	—	30	—	—	70	—	—	—
Permalloy (A.C. Circuits) ...	—	—	—	17·7	—	—	78·5	—	—	Mo 3·8
,, (D.C. Circuits) ...	—	—	—	21·5	—	—	78·5	—	—	—
Perminvar (Const. Permbty. Al.)	—	—	—	Bal.	—	—	20–75	—	—	Co 5–40 : Mo Sometimes
,, ,, ,, ,,	—	—	—	23	—	—	45	—	—	Co 25 : Mo 7
,, ,, ,, ,,	—	—	—	27	—	—	45	—	—	Mn 0·35 : Co 25 : Mo 2·5
,, ,, ,, ,,	—	—	—	30	—	—	45	—	—	Co 25
Pewter	—	—	—	—	5–15	—	—	Bal.	—	—
,, ...	—	—	5·7	—	11·5	—	—	81·2	1·6	—
,, ...	—	—	1·8	—	1·8	—	—	89·3	—	Sb 7·6
,, Best	—	—	—	—	—	—	—	86	—	Sb 14
,, Common	—	—	—	—	—	—	—	80	—	Sb 20
,, English	—	—	1·6	—	11·5	—	—	81·2	—	Sb 5·7
,, Modern	—	—	3–8	—	—	—	—	90–92	—	Sb 1·5–5·0
,, Ornamental	—	—	—	—	20 (max.)	—	—	Bal.	—	—
,, Siphon Taps	—	—	1	—	20	—	—	73·5	—	Sb 5·5
,, Tankards	—	—	3·54	—	—	—	—	88·42	0·88	Sb 7·16
Philsim Gunmetal	—	—	86·25	Nil	Trace	—	—	7·41	6·68	—
Phono Electric Bronze ...	—	—	98·75	—	—	—	—	1·25	—	—
Phono Hi.-Strength Bronze ...	—	—	97	—	—	—	—	2	—	Si 1
Phosphor Bronze :										
Automobile Axle Bushes ...	—	—	88·5	—	0·2	—	—	11·0	—	P 0·3
,, Camshaft Bearing	—	—	80·50	Trace	0·71	—	Nil	18·39	0·22	P 0·18
Bars, Hard Drawn (D.T.D. 78A)	—	—	Bal.	—	—	—	—	4·5–7·0	0·05 (max.)	P 0·40 (max.) : Tot. Imp. 0·20 (max.)

Description of Alloy.	Aluminium.	Chromium.	Copper.	Iron.	Lead.	Magnesium.	Nickel.	Tin.	Zinc.	Miscellaneous.
Phosphor Bronze—Contd.										
Bars or Rods (B.S.S. 369-1929)										
Grade A—Low Tin ...	—	—	Bal.	—	—	—	—	3·5–5·0	—	P 0·10–0·40 : Tot. Imp. 0·20 (max.)
,, B—High Tin ...	—	—	Bal.	—	—	—	—	4·5–7·0	—	P 0·10–0·40 : Tot. Imp. 0·20 (max.)
Bearings & Gearwheels for Turntables, etc.—A.S.T.M. B22–21 :—										
Class A—Use with hardened steel under pressures over 1,500 lb./in.²—turntables, etc.	—	—	Bal.	—	—	—	—	20 (max.)	—	P 1·0 (max.) : Oth. Elem. 0·5 (max.)
Class B—Use with soft steel at low speeds and pressures under 1,500 lb./in.²—trunnions, etc.	—	—	Bal.	—	—	—	—	17 (max.)	—	P 1·0 (max.) : Oth. Elem. 0·5 (max.)
Class C—Ordy. machinery bearings	—	—	82 (max.)	—	11 (max.)	—	—	11 (max.)	—	P 0·7–1·0 : Oth. Elem. 0·5 (max.)
Class D—Gears, wormwheels, nuts, etc., use with other compressive stresses	—	—	89 (max.)	0·2 (max.)	—	—	—	11 (max.)	2·25 (max.)	P 0·25 (max.) : Oth. Elem. 0·5 (max.)
Brgs. for Ammunition Hoists	—	—	84·84	—	Trace	—	—	14·31	Nil	P 0·63
,, ,, Coaling Winches ...	—	—	84·85	—	Trace	—	—	14·28	—	P 0·61
,, ,, Dynamos & Motors (Nominal) ...	—	—	85	—	—	—	—	14·25	—	P 0·75
(Actual) ...	—	—	85·20	—	0·07	—	—	14·10	—	P 0·61
,, ,, ,, ,, ,,	—	—	85·17	—	Trace	—	—	14·00	—	P 0·59
Boat Hoist Fittings ...	—	—	88·2	—	Nil	—	—	10·5	Nil	P 0·51
Capstan Gear	—	—	88·9	—	Nil	—	—	9·9	0·70	P 0·40
Car Brgs.—Pennsylvania Ry.	—	—	76·8	—	15	—	—	8	—	P 0·20
Castings for Loco. Shoes and Wedges, etc.	—	—	Bal.	—	9–11	—	—	9–11	0·5 (max.)	P 0·2–0·4 : Oth. Imp. 1·0 (max.)
Castings for Bearings—B.S.S. No. 2B8	—	—	Bal.	—	0·25 (max.)	—	—	10 (min.)	Nil	P 0·50 (min.) : Tot. Imp. 0·50 (max.)

PERCENTAGE COMPOSITION OF NON-FERROUS ALLOYS—(*continued*).

Description of Alloy.	Aluminium.	Chromium.	Copper.	Iron.	Lead.	Magnesium.	Nickel	Tin.	Zinc.	Miscellaneous.
Phosphor Bronze—Contd.										
Castings for Gear Blanks—B.S.S. No. 421	—	—	Bal.	—	0·50 (max.)	—	0·50 (max.)	11–13	0·30 (max.)	P 0·15 (min.) : Oth. Imp. 0·15 (max.)
Castings for Turb. Noz. Plates (Admty.)	—	—	94·9–96·9	—	—	—	—	3·0–5·0	—	P 0·1 (min.)
Castings generally (Admty.)	—	—	Bal.	—	—	—	—	10 (max.)	—	P 0·3 (min.) : Tot Imp. 0·2 (max.)
Castings, Large (Philip's Spcn.)	—	—	90–92	—	—	—	—	9·7–7·4	—	P 0·3–0·6
For Hvy. Brg. Parts ...	—	—	Bal.	—	—	—	—	10	—	P 0·30
For High-Friction Parts ...	—	—	Bal.	—	—	—	—	20	—	P 0·05
For Parts requir'g Toughness	—	—	Bal.	—	—	—	—	10	2	P 0·05
For Ship's Fittings	—	—	Bal.	—	—	—	—	9	3	P 0·05
Gearwheels	—	—	88	—	—	—	—	10	—	P 2
,, (General) ...	—	—	90	—	—	—	—	9·5	—	P 0·5
,, (Sand-cast) ...	—	—	88·25	—	—	—	1·0	10·5	—	P 0·25
Gudgeon Bush (Rotary Aero. Engine)	Trace	—	84·52	Trace	0·09	—	Nil	14·70	—	P 0·62 : Mn Nil
,, ,, ,, ,,	—	—	85·00	—	Trace	—	0·68	14·01	—	P 0·53
,, ,, ,, ,,	—	—	83·82	—	7·67	—	—	8·32	—	P 0·35
Lining—Motor Brake Brg....	—	—	94·12	—	—	—	—	5·64	—	P 0·26
Loco. Slide Valves	—	—	83	—	6	—	—	10	—	P 1
Packing Rings	—	—	80	—	—	—	—	17·8	2	P 0·2
Pinion	—	—	89·9	—	—	—	—	8·9	—	P 0·54
Piston Packing Ring ...	—	—	85·6	—	—	—	—	10·8	2·74	P 0·82
,, ,, ,, ...	—	—	87·7	—	Nil	—	—	10·7	Nil	P 0·97
Piston Rings (Steam Eng.)	—	—	90	—	—	—	—	9·7	—	P 0·3
Pump Impeller	—	—	94	—	—	—	—	5	—	P 1
Rod	—	—	94·5	—	—	—	—	5·2	—	P 0·20
,, ...	—	—	96·1	—	Nil	—	—	3·8	Nil	P 0·11
,, ...	—	—	97·1	—	Nil	—	—	2·2	Nil	P 0·4
,, ...	—	—	96·9	—	Nil	—	—	2·9	Nil	P 0·11
Rod, Drawn	—	—	96·10	—	0·04	—	—	3·77	—	P 0·16
Rolled	—	—	95·6	—	—	—	—	4·5	—	P 0·1
Rolled Plate...	—	—	95·4	—	Nil	—	—	4·0	Nil	P 0·21
Rolled Sheet	—	—	96·9	—	Nil	—	—	3·0	Nil	P 0·10

Description of Alloy.	Aluminium.	Chromium.	Copper.	Iron.	Lead.	Magnesium.	Nickel.	Tin.	Zinc.	Miscellaneous.
Phosphor-Bronze—Contd.										
Sheaves	—	—	89·00	—	—	—	—	10·50	—	P 0·50
Sheet or Wire (Philip's Specn.)	—	—	95·5–97·5	—	—	—	—	Bal.	—	P 0·1–0·25
Sheets, Strip & Foil (B.S.S.407)										
Grade 1	—	—	Bal.	—	0·02 (max.)	—	—	3–4·5	—	P 0·02–0·4 : Tot. Imp. 0·20 (max.)
Grade 2	—	—	Bal.	—	0·02 (max.)	—	—	4·5–6·0	—	P 0·02–0·4 : Tot. Imp. 0·20 (max.)
Slide Valves (L. & Y. Ry.)	—	—	84·50	—	5·00	—	—	10·00	—	P 0·50
Spanner	—	—	87·3	—	—	—	—	12·2	Nil	P 0·10
Spring Wire (S.A.E. No. 81)	—	—	Bal.	0·10 (max.)	0·10 (max.)	—	—	4–6	0·20 (max.)	P 0·03–0·40
Springs (Range)	—	—	94–97	—	—	—	—	3–6	—	P 0·25 (max.)
,, (Typical)	—	—	96·90	—	—	—	—	2·90	—	P 0·11
Stuffing Box...	—	—	90·4	—	—	—	—	9·6	—	P 0·34
Suitable for Sliding Friction	—	—	Bal.	—	—	—	—	11–13	—	P 0·2–0·5
Tube (Solid-Drawn)... ...	—	—	91·60	—	—	—	—	8·50	—	P 0·195
Turbine Blading (B.S.S. No. 352)	Nil	—	Bal.	—	Nil	—	—	3·0–5·0	—	P 0·1–0·15 : Tot. Oth. Imp. 0·2 (max.)
Turbine Blading Matl. ...	—	—	96·35	Trace	Nil	—	Nil	3·45	Trace	P 0·12
,, ,, ,, ...	—	—	96·49	Trace	0·13	—	—	3·01	0·16	P 0·07 : As 0·08
,, ,, ,, ...	—	—	96·14	Trace	0·10	—	—	3·19	0·22	P 0·05 : As 0·08
Turbine Nozzles	—	—	91·45	0·05	0·08	—	Trace	8·25	Nil	P 0·10 : As 0·04 : Sb 0·07
Turbine Sleeves	—	—	91·43	0·12	0·27	—	0·05	6·00	1·38	P 0·43 : As 0·29 : Sb 0·07
Turn-Table Centres... ...	—	—	86·6	—	—	—	—	11·9	—	P 1·5
Winch Casting	—	—	88·8	—	—	—	—	11·0	—	P 0·52
Wire	—	—	92·85	—	—	—	—	6·50	—	P 0·31
Wire	—	—	98·75	—	—	—	—	1·20	—	P 0·05
Wire, Hard-Drawn : B.S.S. No. 384 :										
Grade A—Low Tin ...	—	—	Bal.	—	Nil	—	—	3·5–5·0	—	P 0·10–0·40 : Tot. Imp. 0·2 (max.)

PERCENTAGE COMPOSITION OF NON-FERROUS ALLOYS—(*continued*).

Description of Alloy.	Alu-minium.	Chrom-ium.	Copper.	Iron.	Lead.	Mag-nesium.	Nickel.	Tin.	Zinc.	Miscellaneous.
Phosphor Bronze :—Contd.										
Grade B—High Tin ...	—	—	Bal.	—	Nil	—	—	4·5–7·0	—	P 0·10–0·40 : Tot. Imp. 0·2 (max.)
Wormwheel—Turb. Oil Pump	—	—	87·70	Nil	Nil	—	Nil	11·9	Nil	P 0·45
Wormwheel Rims	—	—	89–95	—	Nil	—	—	10–4·75	—	P 1–0·25
Wormwheels	—	—	Bal.	—	0–2	—	0–4	9–13	0–2	P 0–1
,, ...	—	—	Bal.	—	0·25	—	1·25–2·25	9·5–10·75	—	P 0·25
Worms and Wheels... ... (*See also* Nickel Bronze)	—	—	89·50	—	Trace	—	—	9·77	0·13	P 0·44
Phosphor-Copper	—	—	85	—	—	—	—	—	—	P 15
,, ,, ...	—	—	90	—	—	—	—	—	—	P 10
Phosphor-Copper—A.S.T.M. B52—Grade A	—	—	—	0·15 (max.)	—	—	—	—	—	P 14 (min.) : P+Cu 99·75 (min.)
Phosphor-Copper—A.S.T.M. B52—Grade B	—	—	—	0·15 (max.)	—	—	—	—	—	P 10 (min.) : P+Cu 99·75 (min.)
Phosphor-Tin	—	—	—	—	—	—	—	95	—	P 5
,, ,, ...	—	—	—	—	—	—	—	90	—	P 10
,, ,, A.S.T.M. B51 ...	—	—	—	—	—	—	—	—	—	P 3·50 (min.) : P+Sn 99·50 (min.)
,, ,, ...	0·33	—	Nil	Trace	0·32	—	—	95·42	—	P 3·86 : Sb 0·07
,, ,, ...	—	—	0·19	0·08	0·65	—	—	94·98	Trace	P 3·65 : Sb 0·24
Pinchbeck	—	—	93·6	—	—	—	—	—	6·4	—
,, ...	—	—	88·8	—	—	—	—	—	11·2	—
,, ...	—	—	83·33	—	—	—	—	—	16·66	—
Pinkus Brass	—	—	88·1	—	1·8	—	0·3	2·5	6·9	Sb 0·32
Pinkus Bronze	—	—	72·4	—	8·8	—	—	14·7	1·5	Sb 2·5
Pioneer Metal (Corr.-Res. Al.)	—	25	—	35	—	—	35	—	—	Mo 5
,, ,, ,, ,, ,,	—	20	—	35	—	—	38	—	—	Mo 3 : Si 4
Placet (Heat-Res. & Resist. Al.)	—	15	—	20	—	—	60	—	—	Mn 5
Plastic Bronze (Brg. Alloy) ...	—	—	64·13	—	30·11	—	0·73	5·05	—	—
,, ,, ,, ,, ...	—	—	63·58	—	28·88	—	1·04	5·30	0·88	—
,, ,, ,, ,, ...	—	—	65	—	30	—	—	4	1	—
,, ,, ,, ,, ...	—	—	67·73	—	26·81	—	—	4·96	0·48	—
,, ,, ,, ,, ...	—	—	67·41	—	26·64	—	—	5·05	0·96	—
,, ,, (Heavy Ry. Brgs.)	—	—	64	—	30	—	1	5	—	—

Description of Alloy.	Alu-minium.	Chrom-ium.	Copper.	Iron.	Lead.	Mag-nesium.	Nickel.	Tin.	Zinc.	Miscellaneous.
Plastic Metal (Brg. Alloy) ...	—	—	5	—	—	—	—	85	—	Sb 10
,, ,, ,, ,, ...	—	—	7	—	—	—	—	78	—	Sb 15
,, ,, for Repair Jobs	—	—	11	—	Nil	—	—	78	—	Sb 11
,, ,, Heavy	—	—	8	—	—	—	—	83	—	Sb 9
Platine	—	—	43	—	—	—	—	—	57	—
Platine-au-titre	—	—	—	—	—	—	—	—	—	Ag 83–65 : Pt 17–35
Platinoid (Resistance Alloy) ...	—	—	54	0·47	—	—	24·77	—	20·4	Mn 0·15
,, ,, ,, ...	—	—	60	—	—	—	14	—	24	W 2
,, ,, ,, ...	—	—	62	—	—	—	15	—	22	—
Platinoid Solder	—	—	47	—	—	—	11	—	42	—
Platinum-Base (Complex) Alloys:										
Contacts	—	—	—	—	—	—	—	—	—	Ag 0·5–5 : Au 5–15 : Pd 0·5–5 : Pt.Bal.
Unmagnetisable Watch Wheels	—	—	18	—	—	—	18	—	—	Pt 62·75 : Cd 1·25
Platinum-Gold :										
Almost White	—	—	—	—	—	—	—	—	—	Au 70 : Pt 30
,, ,, ...	—	—	—	—	—	—	—	—	—	Au 16·66 : Ag 25 : Pt 58·33
White	—	—	—	—	—	—	—	—	—	Au 60 : Pt 40
Platinum-Iridium Alloys :										
Fuse Wires for Explosives ...	—	—	—	—	—	—	—	—	—	Pt 90–80 : Ir 10–20
Hard Alloy	—	—	—	—	—	—	—	—	—	Pt 95–70 : Ir 5–30
Pract. insol. in aqua regia ...	—	—	—	—	—	—	—	—	—	Pt 70 : Ir 30
Thermocouples	—	—	—	—	—	—	—	—	—	Pt 99 : Ir 1
,, ...	—	—	—	—	—	—	—	—	—	Pt 90 : Ir 10
Platinum-Palladium Gold Alloys:										
Dental Plate Alloy	—	—	—	—	—	—	—	—	—	Au 25 : Pd 33·3 : Pt 41·7
Hard Alloy	—	—	—	—	—	—	—	—	—	Au 5 : Pd 14 : Pt 81
,, ,, ...	—	—	—	—	—	—	—	—	—	Au 3·9 : Pd 0·8 : Pt 95·3
Platinum-Palladium-Iridium Als :										
Fuse Wires for Explosives...	—	—	—	—	—	—	—	—	—	Pt 70 : Pd 25 : Ir 5
Platinum-Rhodium Alloys :										
Lab. App. & El. F'ce Units	—	—	—	—	—	—	—	—	—	Pt 96·5 : Rh 3·5

PERCENTAGE COMPOSITION OF NON-FERROUS ALLOYS—(*continued*).

Description of Alloy.	Alu-minium.	Chrom-ium.	Copper.	Iron.	Lead.	Mag-nesium.	Nickel.	Tin.	Zinc.	Miscellaneous.
Platinum-Rhodium Alys:–Contd										
Thermocouples	—	—	—	—	—	—	—	—	—	Pt 90 : Rh 10
Platinum-Silver-Copper Alloys:										
Pen Metal (Cooper's) ...	—	—	12·5	—	—	—	—	—	—	Pt 50 : Ag 37·5
Platinum Solder	—	—	—	—	—	—	—	—	—	Ag 73 : Pt 27
Platinum Substitute	23·6	—	—	—	—	—	72·0	—	—	Au 0·7 : Bi 3·7
,, ,, (Cooper's)	—	—	—	—	—	—	5	—	—	Ag 70 : Pt 25
,, ,, ,,	—	—	—	—	—	—	—	—	—	Ag 70 : Co 5 : Pd 25
,, ,, (Electrical)	—	—	—	—	—	—	—	—	—	Ag 25 : Au 67·5 : Pt 7·5
,, ,, ,,	—	—	—	—	—	—	—	—	—	Ag 25 : Au 70 : Pt 5
,, ,, ,,	—	—	—	—	—	—	5	—	—	Ag 25 : Au 70
Platnam Metal (Valve Seatings)	—	—	33	—	—	—	54	13	—	—
,, ,, ,, ,,	0·32	—	32·55	0·48	—	—	53·80	12·72	—	—
Plumber's Solder—*See* Solder										
Plumber's White	—	—	58	1	1	—	15	—	25	Mn 0·3
Polivit (Rollg. & Forg. Alloy)	97·4	—	0·6	—	—	—	—	—	—	Mn 1·8 : Ag 0·2
Pope's Island Alloy	—	—	70	—	—	—	14	—	15	—
Poterie d'Etain	—	—	1	—	—	—	—	90	—	Sb 9
Potinjaune	—	—	71·9	—	2·0	—	—	1·2	24·9	—
Premier (Resistance Alloy) ...	—	11	—	25	—	—	61	—	—	Mn 3
Primer Gilding...	—	—	97	—	—	—	—	—	3	—
Prince's Metal	—	—	—	—	—	—	—	84·75	—	Sb 15·25
,, ,, ...	—	—	83	—	—	—	—	—	17	—
,, ,, ...	—	—	75	—	—	—	—	—	25	—
,, ,, ...	—	—	60·8	—	—	—	—	—	39·2	—
Promethium	3	—	67	—	—	—	—	—	30	—
Pyromic (Heat-Res. Al. to 1150°C)	—	20	—	—	—	—	80	—	—	—
Pyromic III (Heat-Res. Alloy)	—	15	—	20	—	—	65	—	—	—
Pyrophoric Alloys:—										
No. 1	—	—	—	—	—	—	—	—	—	Ce 60 : Cd 40
No. 2	—	—	—	—	—	—	—	—	30	Ce 70
No. 3	—	—	—	—	—	—	—	30	—	Ce 70
No. 4	—	—	—	—	30	—	—	—	—	Ce 70
Explosive	—	—	—	—	—	—	—	—	—	Ce 50 : Hg 50

Description of Alloy.	Aluminium.	Chromium.	Copper.	Iron.	Lead.	Magnesium.	Nickel.	Tin.	Zinc.	Miscellaneous.
Pyrophoric Alloys:—Contd.										
Hard	—	10	—	—	—	—	—	—	—	Sb 10 : Mn 80
" Most Pyrophoric " ...	—	—	—	—	—	—	—	—	—	Ce 75 : Pt 25
Pyros (Heat-Resisting Alloy) ...	—	7	—	3	—	—	82	—	—	W 5 : Mn 3
Quarzal 5 (Brgs. for Diff. Condns.)	Bal.	—	5	1	—	—	—	—	—	—
,, ,, ,, ,, ,, ,,	Bal.	—	5	1	—	—	—	—	—	Ti 0·5
,, ,, ,, ,, ,, ,,	Bal.	—	5	—	—	—	1	—	—	Ti 0·5
,, 15 (Piston Alloy) ...	78·0	—	15·0	1·0	—	—	—	—	—	Mn 6·0
Queen's Metal	—	—	3·5	—	—	—	—	87	1	Sb 8·5
,, ,, ...	—	—	—	—	8·80	—	—	73·36	8·88	Sb 8·88
,, ,, ...	—	—	3·5	—	—	—	—	88·5	0·9	Sb 7·1
,, ,, ...	—	—	3·5	—	—	—	—	88·5	—	Sb 7·0 : Bi 1·0
,, ,, ...	—	—	—	—	16·5	—	—	50·5	16·5	Sb 16·5
R4 (French Coinage Alloy) ...	95	—	4·5	—	—	—	—	—	—	Ag 0·5
R.R. Alloys—*See* Hiduminium										
Rolls-Royce AC 9 (Brg. Alloy)	Bal.	—	0·6–0·9	0·2–0·45	—	0·7–1·0	1·5–1·8	5·5–7·0	—	Si 0·15–0·3
Radiometal (Magnetic Alloy)...	—	—	5	50	—	—	45	—	—	—
,, ,, ,, ...	—	—	—	Bal.	—	—	45–50	—	—	—
,, ,, ,, ...	—	—	5	45	—	—	50	—	—	—
Rakel's Alloy	—	—	88	—	—	—	10	—	1	Mn 1
Rakel's Metal	10·5	—	87·5	—	—	—	—	—	1	Mn 1
Raney's Alloy (Catalyst in Ammonia production) ...	70	—	—	—	—	—	30	—	—	—
Rauchberg (Sulphite-Resisting)	—	—	66–75	—	15–19	—	—	10–5	—	Sb 1–5
Rayo (Resistance Alloy) ...	—	15	—	—	—	—	85	—	—	—
Réaumur's Alloy	—	—	—	30	—	—	—	—	—	Sb 70
Red Brass (Cast Alloy):										
Auto-Fittings, Carburettor Parts, etc.	—	—	83	—	7	—	—	7	3	—
High Grade for Gen. Service	—	—	85	—	5	—	—	5	5	—
Low Grade for Gen. Service	—	—	82	—	5	—	—	3	10	—

PERCENTAGE COMPOSITION OF NON-FERROUS ALLOYS—(*continued*).

Description of Alloy.	Aluminium.	Chromium.	Copper.	Iron.	Lead.	Magnesium.	Nickel.	Tin.	Zinc.	Miscellaneous.
Red Brass (Wrought Alloy): Pipe, Std. Sizes (A.S.T.M. B 43)	—	—	84–87	0·07 (max.)	0·07 (max.)	—	—	0·15 (max.)	Bal.	—
Range	—	—	82–89	—	—	—	—	—	18–11	—
Redford's Spherical Packing (Superheat Alloy) ...	—	—	85·68	Nil	2·50	—	—	10·08	1·85	—
Redray (Resistance Alloy) ...	—	15	—	—	—	—	85	—	—	—
Reed Brass	—	—	69	—	—	—	—	1	30	—
Regelmetall	—	—	5·6	—	—	—	—	83·3	—	Sb 11·1
Regulus of Venus	—	—	50	—	—	—	—	—	—	Sb 50
Regulus Metal	—	—	—	—	Bal.	—	—	—	—	Sb 6–12
Regulus Metal—B.S.S. No. 335—1928—Alloy 1	—	—	0·10 (max.)	—	Bal.	—	—	0·10 (max.)	0·01 (max.)	Sb 6–8 : As 0·01 (max.) : S 0·02 (max.)
Regulus Metal—B.S.S. No. 335—1928—Alloy 2	—	—	0·10 (max.)	—	Bal.	—	—	0·10 (max.)	0·01 (max.)	Sb 8–10 : As 0·01 (max.) : S 0·02 (max.)
Regulus Metal—B.S.S. No. 335—1928—Alloy 3	—	—	0·10 (max.)	—	Bal.	—	—	0·10 (max.)	0·01 (max.)	Sb 10–12 : As 0·01 (max.) : S 0·02 (max.)
Regulus Metal—B.S.S. No. 335—1928—Alloy 4	—	—	0·10 (max.)	—	Bal.	—	—	0·10 (max.)	0·01 (max.)	Sb 12 (min.) : As 0·01 (max.) : S 0·02 (max.)
Reich's Bronze	6·6	—	85·2	7·52	0·15	—	—	0·07	—	Mn 0·5
Reith's Alloy	—	—	74·5	—	9	—	—	11·6	—	Sb 4·9
Rely C.M. 1 Bearing Alloy ...	—	—	6	—	0	—	—	84	—	Sb 10
,, C.M. 2 ,, ,, ...	—	—	6	—	12	—	—	72	—	Sb 10
,, C.M. 3 ,, ,, ...	—	—	3	—	42	—	—	40	—	Sb 15
,, C.M. 4 ,, ,, ...	—	—	3	—	50	—	—	31	—	Sb 16
,, C.M. 5 ,, ,, ...	—	—	1	—	70	—	—	15	—	Sb 14
,, C.M. 6 ,, ,, ...	—	—	0	—	80	—	—	6	—	Sb 14
Resisco (Corr.-Res. Tubes for Condrs., etc.)	7	—	91	—	—	—	2	—	—	—
Resistal...	9	—	90	1	—	—	—	—	—	—
Resistin (Elect. Resistance Wire)	—	—	86·5	1·8	—	—	—	—	—	Mn 11·7

Description of Alloy.	Aluminium.	Chromium.	Copper.	Iron.	Lead.	Magnesium.	Nickel.	Tin.	Zinc.	Miscellaneous.
Resistin (Elect. Resistance Wire)	—	—	84·3	2·0	—	—	—	—	—	Mn 13·4
,, ,, ,, ,,	—	—	85	3	—	—	—	—	—	Mn 12
,, ,, ,, ,,	—	—	84·32	1·92	—	—	—	0·10	—	Mn 13·45 : Si 0·15
Resisto-Permalloy("Loading"Al.)	—	10	—	19	—	—	69·2	—	—	Co 0·3 : Si 1·0 : Mn 0·5
Rezistal 355-C (Corr.-Res. Al.)	—	10–12	—	Bal.	—	—	33–35	—	—	C 0·25 : Si 4·5–5·5
Rheotan (Resistance Alloy) ...	—	—	84	—	—	—	—	—	4	Mn 12
Rheotan II (Resistance Alloy)	—	—	52	5	—	—	25	—	18	—
Rhometal (Hi. Freq. Elect. Cir'ts)	—	5	—	Bal.	—	—	40–45	—	—	Si 3
Rich Gold Metal	—	—	90	—	—	—	—	—	10	—
Rich Low Brass	—	—	85	—	—	—	—	—	15	—
Richard's Plastic Babbitt(Brg.Al.)	—	—	8·10	—	—	—	—	82·43	—	Sb 9·77
Roberts-Austen's Purple Gold	21·5	—	—	—	—	—	—	—	—	Au 78·5
Roman Bronze	1·1	—	58–60	1	—	—	—	1	Bal.	Mn 0–2
,, ,, ...	—	—	90	—	—	—	—	10	—	—
Romanium	Bal.	—	0·25	—	—	—	1·75	0·15	—	Sb 0·25 : W 0·17
Rose's Fusible Alloy	—	—	—	—	28	—	—	22	—	Bi 50
,, ,, ,, ...	—	—	—	—	35	—	—	30	—	Bi 35
Rosein	30	—	—	—	—	—	40	20	—	Ag 10
Ross' Alloy	—	—	68·2	—	—	—	—	31·8	—	—
Rubel Bronze (Hi. Ten. Corr.-Res. Alloy)	0·31	—	56·45	1·26	—	—	2·00	—	40·0	—
,, ,, ,, ,,	0·90	—	53·35	2·10	—	—	—	—	40·0	Mn 5·40
,, ,, ,, ,,	0·25	—	52·15	2·30	—	—	2·10	—	40·0	Mn 3·20
,, ,, ,, ,,	0·25	—	51·15	2·50	—	—	2·10	—	40·0	Mn 4·00
,, ,, ,, ,,	0·5	—	55·5–57	1·5–2	—	—	1–3	—	39–40	—
,, ,, ,, ,,	10	—	80	4·5	—	—	4·5	—	—	Mn 1·00
Rule Brass	—	—	62·5	—	2·5	—	—	—	35·0	—
Ruthenium-Iridium Alloys : Thermocouples (1600-2000° C.)	—	—	—	—	—	—	—	—	—	Ru 90 : Ir 10
S.M.L. Alloy (Corrosion-Res.)	—	—	28	2·5	—	—	68	—	—	Mn 1·5
Salge Metal	—	—	4	—	1·1	—	—	9·9	85·5	—
Salvak (Cast Al.—Pump Impellers, etc.)	—	—	86·90	—	0·10	—	—	12·40	—	P 0·60

PERCENTAGE COMPOSITION OF NON-FERROUS ALLOYS—(*continued*).

Description of Alloy.	Alu-minium.	Chrom-ium.	Copper.	Iron.	Lead.	Mag-nesium.	Nickel.	Tin.	Zinc.	Miscellaneous.
Salvak Bronze No. 12 ...	—	—	86·91	—	0·10	—	—	12·36	—	P 0·61
Satco Metal (Axle-Box Brgs., etc.)	0·05	—	—	—	Bal.	0·075	—	1·0	—	Ca 0·5 : Hg 0·25 : K 0·04 : Li 0·04
Satco Metal (Brit. Pat. 374005) : Range	0·02–1	—	—	—	Bal.	0·05–0·1	—	0·5–2·0	—	Ca 0·3–1·0 : Hg 0·1–0·5 : K 0·02–0·06 : Li 0·02–0·06
Preferred	0·05	—	—	—	Bal.	0·075	—	1·0	—	Ca 0·5 : Hg 0·25 : K 0·04 : Li 0·04
Satco Metal (Conn. Rod Big-End Brgs., etc.)	Trace	—	—	—	Bal.	Trace	—	2·40	—	Ca 0·15 : K 0·07 : Na & Ba Traces
Satco Metal (Diesel Eng. Brg. Al.)	—	—	—	—	95·90	0·15	—	2·56	—	Ca 0·62 : Na 0·54
Sceptre Brass (Hi. Ten. Extruded Alloy)	1·05	—	61·68	1·44	0·07	—	—	—	35·60	—
,, ,, ,, ,,	1·01	—	64·56	1·07	Trace	—	—	0·46	32·90	—
Schomberg Alloy	—	—	3	—	—	—	—	10	87	—
Schulz Alloy	3	—	6	—	—	—	—	—	91	—
Scleron—*See* Skleron										
Sea-Water Bronze (Cor.-Res. Al.)	—	—	45	—	—	—	32·5	16	5·5	Bi 1
Secretan	9–5	—	91–95	—	—	1·5	—	—	—	P 0·5
Seewasser—*See* BS-Seewasser and KS-Seewasser										
Semi-Plastic Bronze (Brg. Alloy)	Nil	—	75·5–78·5	0·25 (max.)	13·5–16·5	—	—	7·25–8·75	0·50 (max.)	Sb 0·50 (max.) : P 0·25 (max.)
Semi-Red Brass (Cast Fittings)	—	—	83	—	6	—	—	4	7	—
,, ,, ,, ,, ,,	—	—	78	—	5	—	—	3	14	—
,, ,, ,, ,, ,,	—	—	84	—	3	—	—	3	10	—
Semi-Red Brass (Low-Pressure Valve Fittings)	—	—	80	—	7	—	—	3	10	—
Sen-Alloy (Magntc. Recordg.,etc.)	—	—	40	40	—	—	20	—	—	—
Shakudo (Japanese Decor've Al.)	—	—	95·77	—	—	—	—	—	—	Au 4·16 : Ag 0·08
,, ,, ,, ,,	—	—	94·50	Trace	0·11	—	—	—	—	Au 3·73 : Ag 1·55 : As Trace
,, ,, ,, ,,	—	—	94·90	—	0·11	—	—	—	—	Au 2·67 : Ag 2·06

Description of Alloy.	Aluminium.	Chromium.	Copper.	Iron.	Lead.	Magnesium.	Nickel.	Tin.	Zinc.	Miscellaneous.
Shakudo (Japanese Decor've Al.)	—	—	96·00	—	0·06	—	—	—	—	Au 2·45 : Ag 1·24
,, ,, ,, ,,	—	—	96·10	—	0·08	—	—	—	—	Au 1·52 : Ag 2·01
,, ,, ,, ,,	—	—	97·40	—	0·07	—	—	—	—	Au 1·00 : Ag 1·37
,, ,, ,, ,,	—	—	99·04	—	—	—	—	—	—	Au 0·49 : Ag 0·29
Sheathing Bronze (Cor.-Res. Al.)	—	—	45	—	—	—	32·5	16	5·5	Bi 1·5
Sheathing Nails	—	—	63·6	—	8·8	—	—	2·6	25	—
Shell Head Brass	—	—	75	—	—	—	—	—	25	—
Shibu-ichi (Japanese Decorative Alloy) :										
Mint Trade Bars,										
1706 A.D. (Hoji-gin) ...	—	—	49·18	—	—	—	—	—	—	Ag 50·70 : Au 0·12
1710 A.D. (Eiji-gin) ...	—	—	58·32	—	—	—	—	—	—	Ag 41·60 : Au 0·08
1710 A.D. (Sambo-gin) ...	—	—	67·27	—	—	—	—	—	—	Ag 32·65 : Au 0·08
1711 A.D. (Shiho-gin) ...	—	—	79·58	—	—	—	—	—	—	Ag 20·40 : Au 0·02
1854 A.D. (Ansei-gin) ...	—	—	86·48	—	—	—	—	—	—	Ag 13·50 : Au 0·02
Sword Mount (Hoji-gin) ...	—	—	51·10	—	—	—	—	—	—	Ag 48·93 : Au 0·12
Sword Mount (Early 18th Cent.) (Sambo-gin) ...	—	—	67·31	—	0·52	—	—	—	—	Ag 32·07 : Au Trace
Ship's Nail Alloy	—	—	—	—	33	—	—	50	—	Sb 17
Shoe Nail Brass	—	—	63	—	—	—	—	—	37	—
Shoe Tip Metal	—	—	88	—	—	—	—	—	12	—
Shot Lead	—	—	—	—	99·8	—	—	—	—	As 0·2
,, ,, ...	—	—	—	—	99·6	—	—	—	—	As 0·4
Sibley Alloy	67	—	—	—	—	—	—	—	33	—
Sical	22–29	—	—	Bal.	—	—	—	—	—	Si 50–55 : C 0·2–0·3 : Ti 2–4 : Ca 1 : Mn 0·20
Siemens' Bearing Alloy ...	—	—	—	—	—	—	—	—	48	Sb 5 : Cd 47
Sifbronze (Non-F. Welding Rods)	—	—	59	—	—	—	—	2·5	38·5	—
Signal Bronze (Wire)	—	—	98·75	—	—	—	—	1·25	—	—
Silal V (Rollg. & Extd. Al., H.T.)	97·2	—	—	—	—	1·2	—	—	—	Mn 0·8 : Si 0·5 : Ti 0·3
Silanca	—	—	—	—	—	—	—	—	0–2·5	Sb 4–4·5 : Ag 92·5–94·5 : Cd 1–3
Silcudur (Wrt. Corr.-Res. Alloy)	—	—	Bal.	—	—	—	—	—	—	Si 2·2 : Mn 0·7

PERCENTAGE COMPOSITION OF NON-FERROUS ALLOYS—(*continued*).

Description of Alloy.	Aluminium.	Chromium.	Copper.	Iron.	Lead.	Magnesium.	Nickel.	Tin.	Zinc.	Miscellaneous.
Silicide of Calcium, Electrothermic (Standard)	—	—	—	—	—	—	—	—	—	Si 65–70 : C Trace : Ca 25–30
Silico-Manganese (British) ...	—	—	—	Bal.	—	—	—	—	—	Mn 70·30 : C 0·75 : Si 20·70
Silico-Manganese, Electrothermic (Standard)	—	—	—	Bal.	—	—	—	—	—	Mn 60–70 : Si 15–20 : C 0·5–1·0 : S 0·02 : P 0·05
,, ,, ,, ,,	—	—	—	Bal.	—	—	—	—	—	Mn 50–55 : Si 20–25 : C 0·5–1·0 : S 0·02 : P 0·05
Silicon-Aluminium-Manganese (Electrothermic, Std.)	Bal.	—	—	—	—	—	—	—	—	Mn 58 : Si 25 : C 0·2–0·3
Silicon Brass :										
Bell Metal...	—	—	81–82	—	—	—	—	0·5	14	Si 4–5
Cast & Wrt. Cor.-Res. Al.	—	—	79–81	0·3 (max.)	—	—	—	—	Bal.	Si 3·5–3·8
,, ,, ,, ,, ,,	—	—	79–81	0·6 (max.)	—	—	—	—	Bal.	Si 3·0–3·3
,, ,, ,, ,, ,,	—	—	81	—	—	—	—	—	14	Si 5
Die-Casting Alloy ...	1	—	83	—	—	—	—	—	10	Si 5 : Mn 1
Extruding Alloy (Strong & Ductile)	—	—	81	—	—	—	—	—	15	Si 4
Silicon Bronze :										
Brgs. for High Pressures...	—	—	Bal.	1–1·5	2–3	—	—	—	8	Si 3–4 : Mn 3
Bushes and Worm Gears...	—	—	Bal.	0·9–1·1	1·3–2·0	—	—	—	5	Si 2·5–3·0 : Mn 2·5
Casting Alloy	—	—	95·5	—	—	—	—	—	—	Si 3·5 : Mn 1·0
,, ,, ...	—	—	Bal.	4–6	—	—	1–5	—	—	Si 1–4
Cold-Drawn Wires ...	—	—	99	—	—	—	—	—	—	Si 1
Good Casting Alloy ...	0·15 (max.)	—	Bal.	4	—	—	3	0·5	—	Mn 0·12 : Si 3
Wire	—	—	99·05	—	—	—	—	0·82	—	Si 0·035
Silicon-Copper-A.S.T.M.-B53-38T :										
Grade A	0·25 (max.)	—	Bal.	0·75 (max.)	—	—	—	0·25 (max.)	0·25 (max.)	Si 10–12 : Cu + Fe + Si 99·4 (min.)

Description of Alloy.	Aluminium.	Chromium.	Copper.	Iron.	Lead.	Magnesium.	Nickel.	Tin.	Zinc.	Miscellaneous.
Silicon-Copper-A.S.T.M.-B53-38T:—Contd.										
Grade B	0·25 (max.)	—	Bal.	0·75 (max.)	—	—	—	0·25 (max.)	0·25 (max.)	Si 17–21 : Cu+Fe +Si 99·4 (min.)
,, C	0·25 (max.)	—	Bal.	0·75 (max.)	—	—	—	0·25 (max.)	0·25 (max.)	Si 28–32 : Cu+Fe +Si 99·4 (min.)
Silicon-Copper (Telegraph Wk.)	—	—	99·9	—	—	—	—	—	—	Si 0·1
Silicon-Monel (Castings–Admty. Specn.)	—	—	Bal.	3·5 (max.)	—	—	62·0 (min.)	—	—	C 0·25 (max.) : Si 3·0 (max.) : S 0·1 (max.) : Mn 0·75–3·0 : Tot. Imp. 0·5 (max.)
Silicon Monel—*See also* Monel H										
Silicon-Nickel Alloys :										
Hardener	—	—	—	—	—	—	50	—	—	Si 50
Silliman Bronze	9·7	—	86·4	3·9	—	—	—	—	—	—
Silmelec (Rollg. & Forg. Al., H.T.)	97·8	—	—	—	—	0·6	—	—	—	Mn 0·6 : Si 1·0
Silumin (Cast, *as* Alpax) ...	87	—	—	—	—	—	—	—	—	Si 13
,, ,, ,, ,, ...	Bal.	—	—	—	—	—	—	—	—	Si 13·5
,, ,, ,, ,, ...	Bal.	—	—	0·38	—	—	—	—	—	Si 13·1
,, ,, ,, ,, ...	Bal.	—	—	0·6	—	—	—	—	—	Si 13·0
,, ,, ,, ,, ...	Bal.	—	—	0·6	—	—	—	—	—	Si 13·5
,, ,, ,, ,, ...	Bal.	—	0·15	0·8	—	—	—	—	0·2	Mn 0·25 : Si 12–13
,, ,, ,, ,, ...	Bal.	—	—	—	—	0·2–0·25	—	—	—	Si 7–10 : Co 0·4–0·6
Silumin Beta (Casting Alloy) ...	Bal.	—	—	—	—	0·3	—	—	—	Si 12·5 : Mn 0·5
,, Gamma (Casting Alloy)	Bal.	—	—	—	—	0·3	—	—	—	Si 12·5 : Mn 0·5
,, ,, ,, ,,	Bal.	—	—	—	—	0·5 (max.)	—	—	—	Si 12 : Mn 0·3–0·5
,, ,, ,, ,,	Bal.	—	—	—	—	0·1–0·5	—	—	—	Si 11–13·5 : Mn 0·4–0·6
,, ,, ,, ,,	Bal.	—	—	—	—	0·4	—	—	—	Si 12·0 : Mn 0·5
,, ,, ,, ,,	Bal.	—	—	—	—	0·5	—	—	—	Si 12·0 : Mn 0·4
Silumin (Modified) (Castg. Alloy)	Bal.	—	0·8	—	—	—	—	—	8·0	Si 8·0
Silumin—*See also* Spl. Silumin										

PERCENTAGE COMPOSITION OF NON-FERROUS ALLOYS—(*continued*).

Description of Alloy.	Aluminium.	Chromium.	Copper.	Iron.	Lead.	Magnesium.	Nickel.	Tin.	Zinc.	Miscellaneous.
Silvel (Cast)	0·13	—	67·93	2·22	0·48	—	6·52	—	15·84	Mn 6·8
,, ,, ...	0·25	—	73·30	1·80	0·51	—	—	—	12·1	Mn 12
Silver-Base Alloys :										
Coinage Alloy	—	—	40	—	—	—	5	—	5	Ag 50
Coinage Alloys	—	—	0·5–5·5	—	—	—	—	—	28–36	Ag 63–71
Dental Amalgam Alloy ...	—	—	3–6	—	—	—	—	26–29	0–0·2	Ag 65–70
Tarnish-Resisting ...	—	—	2–5	—	—	—	1–2	—	10–12	Ag 81–92
Silver Bronze	1·25	—	67·5	—	—	—	—	—	13	Mn 18 : Si 0·25
Silver Coinage Alloys :										
Austria, Italy, France ...	—	—	Bal.	—	—	—	—	—	—	Ag 83·5
Austria, Schilling ...	—	—	Bal.	—	—	—	—	—	—	Ag 64
Brit. War Std. (original)...	—	—	40–41	—	—	—	10–9	—	—	Ag 50
,, ,, ,, (revised 1922)	—	—	50	—	—	—	—	—	—	Ag 50
,, ,, ,, (revised 1927)	—	—	40	—	—	—	5	—	5	Ag 50
Chili, Japan, Mexico ...	—	—	Bal.	—	—	—	—	—	—	Ag 72
China, 1915	—	—	Bal.	—	—	—	—	—	—	Ag 89
Denmark, Crown ...	—	—	Bal.	—	—	—	—	—	—	Ag 80
Germany, Russia ...	—	—	Bal.	—	—	—	—	—	—	Ag 50
Greece, 500-300 B.C. :										
Alexander, Tetradrachm	—	—	Trace	Trace	0·43	—	—	—	—	Ag 99·07 : Au Trace
,, ,,	—	—	—	Trace	0·13	—	—	—	—	Ag 99·19 : Au 0·343
Athens, Tetradrachm ...	—	—	—	Trace	0·63	—	—	—	—	Ag 98·98 : Au 0·003
,, ,, ...	—	—	—	Trace	0·46	—	—	—	—	Ag 99·40 : Au Trace
Corinth, Stater ...	—	—	3·59	—	0·47	—	0·87	—	—	Ag 93·68 : Fe_2O_3 1·06
,, ,, ...	—	—	4·01	0·11	0·57	—	Trace	—	—	Ag 94·12 : Au Trace
Croton, Stater	—	—	1·70	—	0·44	—	—	—	—	Ag 96·05 : Fe_2O_3 Trace
Leontini, Tetradrachm	—	—	4·30	—	1·41	—	0·15	0·03	—	Ag 93·86 : Au Trace : Fe_2O_3 & SiO_2 0·031
Seleucus, Tetradrachm	—	—	—	Trace	0·40	—	—	—	—	Ag 99·09 : Au Trace
Sybaris, Stater... ...	—	—	2·20	Trace	Trace	—	—	—	—	Ag 95·22 : Au Trace
Tarentum, Stater ...	—	—	11·24	Trace	0·39	—	—	—	—	Ag 86·80 : Au Trace
,, ,, ...	—	—	7·18	Trace	0·47	—	—	—	—	Ag 91·44 : Au 0·330

Description of Alloy.	Alu-minium.	Chrom-ium.	Copper.	Iron.	Lead.	Mag-nesium.	Nickel.	Tin.	Zinc.	Miscellaneous.
Silver Coinage Alloys—Contd.										
Terina, Stater	—	—	1·42	Trace	2·19	—	Trace	—	—	Ag 95·32 : Au 0·093
Holland, Florin	—	—	Bal.	—	—	—	—	—	—	Ag 94·5
Ireland, Poland, Danzig	—	—	Bal.	—	—	—	—	—	—	Ag 75
Mexico, Old Peso	—	—	Bal.	—	—	—	—	—	—	Ag 90·27
Straits $, Sweden	—	—	Bal.	—	—	—	—	—	—	Ag 60
India, Rupee	—	—	8·3	—	—	—	—	—	—	Ag 91·6
Silver-Copper-Cadmium Brg. Al.	—	—	0·25	—	—	—	—	—	—	Cd 97·5 : Ag 2·25
Silver-Copper-Platinum Alloys :										
Contacts	—	—	18–20	—	—	—	—	—	—	Ag 77–80 : Pt 2–5
Silver Foil	—	—	—	—	—	—	—	90	10	—
Silver Foil (for Mirrors) ...	—	—	2·5	—	—	—	—	97·5	—	—
Silver-Gold-Nickel Alloys :										
Acid-Resisting	—	—	—	—	—	—	13·5–15	—	—	Ag 73–80 : Au 13·5–15
Silver Leaf	—	—	—	—	0·35	—	—	91	8·25	—
Silver Metal	—	—	—	—	—	—	—	—	66·5	Ag 33·5
,, ,, ...	—	—	9·3	—	—	—	—	—	7·2	Ag 83·5
Silver Metal (Corr.-Res. Al.) ...	—	—	53·3	0·8	3·6	—	31·6	1·2	8·3	Mn 0·3
Silver-Platinum Alloys :										
Resistance Alloy	—	—	—	—	—	—	—	—	—	Ag 66·66 : Pt 33·33
Silver Solders (=Brazing Alloys):										
A.S.T.M. Spec. No. B73-1929 :										
Grade 1 (Cheapest) ...	—	—	52	—	—	—	—	—	38	Ag 10 : Cd 0·5 (max.) : Imp. 0·15 (max.)
Grade 2 (Cu Alloys & Steel)	—	—	45	—	—	—	—	—	35	Ag 20 : Cd 0·50 (max.) : Imp. 0·15 (max.)
Grade 3	—	—	45	—	—	—	—	—	30	Ag 20 : Cd 5 : Imp. 0·15 max.)
Grade 4 (Most widely used)	—	—	30	—	—	—	—	—	25	Ag 45 : Imp. 0·15 (max.)
Grade 5 (Gen. Purp. Alloy)	—	—	34	—	—	—	—	—	16	Ag 50 : Imp. 0·15 (max.)

PERCENTAGE COMPOSITION OF NON-FERROUS ALLOYS—(*continued*).

Description of Alloy.	Aluminium.	Chromium.	Copper.	Iron.	Lead.	Magnesium.	Nickel.	Tin.	Zinc.	Miscellaneous.
Silver Solders—Contd.										
Grade 6 (Low M.Pt. Alloy)	—	—	20	—	—	—	—	—	15	Ag 65 : Imp 0·15 (max.)
Grade 7	—	—	20	—	—	—	—	—	10	Ag 70 : Imp. 0·15 (max.)
Grade 8 (Ductile Alloy) ...	—	—	16	—	—	—	—	—	4	Ag 80 : Imp 0·15 (max.)
B.S.S. No. 206, 1924—Grade A	—	—	27·5–29·5	—	—	—	—	—	9–11	Ag 60–62 : Imp. 0·50 (max.)
,, ,, ,, ,, ,, B	—	—	36–38	—	—	—	—	—	18·5–20·5	Ag 42–44 : Imp. 0·50 (max.)
Bureau of Standards ...	—	—	14	—	—	—	—	40	6	Ag 40
Chain...	—	—	31·2	—	—	—	—	—	6·2	Ag 62·5
,, ...	—	—	20·9	—	—	—	—	—	16·6	Ag 63·5
Common	—	—	30	—	—	—	—	—	7·5	Ag 62·5
Common for Brass (Brannt)	—	—	33·3	—	—	—	—	—	16·7	Ag 50
Common for Cast Iron (Brannt)	—	—	50	—	—	—	—	—	16·7	Ag 33·3
Common (Gee)	—	—	34·3	—	—	—	—	—	8·6	Ag 57·1
Easy for Chains (Gee) ...	—	—	20·87	—	—	—	—	—	16·63	Ag 62·5
Easy for Filigree	—	—	11·42	—	—	—	—	—	4·37	Ag 84·21
Enamel	—	—	33·3	—	—	—	—	—	—	Ag 66·7
English	—	—	41·11	0·20	Trace	—	—	Trace	17·20	Ag 41·53
,, ...	—	—	37·43	0·28	1·91	—	—	Nil	17·40	Ag 43·12
French	—	—	23·3	—	—	—	—	—	10	Ag 66
German	—	—	30	—	—	—	—	—	30	Ag 20 : Cd 20
,, ...	—	—	40	—	—	—	—	—	40	Ag 10 : Cd 10
Handy & Harmon :—										
DT	—	—	36	—	—	—	—	—	24	Ag 40 (M.Pt. 720°C.)
ET	—	—	28	—	—	—	—	—	22	Ag 50 (M.Pt. 675°C.)
Hard	—	—	22	—	—	—	—	—	3	Ag 75 (M.Pt. 740°C.)
Hard No. 1	—	—	20	—	—	—	—	—	5	Ag 75 (M.Pt. 735°C.)
NE	—	—	52·5	—	—	—	—	—	22·5	Ag 25 (M.Pt. 815°C.)
NT	—	—	38	—	—	—	—	—	32	Ag 30 (M.Pt. 745°C.)
RT	—	—	25	—	—	—	—	—	15	Ag 60 (M.Pt. 680°C.)
SS	—	—	30	—	—	—	2	—	28	Ag 40 (M.Pt. 670°C.)
TL	—	—	55	—	—	—	—	—	38	Ag 9 (M.Pt. 820°C.)

Description of Alloy.	Aluminium.	Chromium.	Copper.	Iron.	Lead.	Magnesium.	Nickel.	Tin.	Zinc.	Miscellaneous.
Silver Solders—Contd.										
Hard	—	—	13·2	—	—	—	—	—	6·8	Ag 80
Hard (Figs. & Enmld. Wk.)	—	—	20	—	—	—	—	—	—	Ag 80
,, (Gee)	—	—	17·5	—	—	—	—	—	2·5	Ag 80
,, ,, ...	—	—	25	—	—	—	—	—	—	Ag 75
Medium	—	—	20	—	—	—	—	—	5	Ag 75
,, ...	—	—	22·5	—	—	—	—	—	7·5	Ag 70
,, ...	—	—	23·3	—	—	—	—	—	10	Ag 66·7
,, (Percy)	—	—	22·12	—	—	—	—	—	8·5	Ag 69·37
,, ,, ...	—	—	22·22	—	—	—	—	—	11·11	Ag 66·67
Ordinary (Plate Work) ...	—	—	27·26	—	—	—	—	—	11·11	Ag 61·66
Plate	—	—	22·5	—	—	—	—	—	13	Ag 64·5
Pure Silver	—	—	28	—	—	—	—	—	—	Ag 72
Quick-Running	—	—	27·7	—	—	—	—	3·8	11·5	Ag 56·9
,, ,, (Gee) ...	—	—	20·87	—	—	—	—	6·25	10·38	Ag 62·5
,, ,, ...	—	—	20·51	—	—	—	—	7·70	10·25	Ag 61·54
Sterling	—	—	2·5	—	—	—	—	—	17·5	Ag 80
Strong	—	—	19·32	—	—	—	—	—	6·68	Ag 74
Silverine (Corr.-Res. Alloy) ...	—	—	80–71	1–1·5	—	—	16–17	1–2·8	1–8	Co 1–2
,, ,, ,, ,, ...	—	—	77	2	—	—	17	—	2	Co 2
Silveroid (Ornml. Fittings, &c.)	—	—	55	—	—	—	45	—	—	—
,, ,, ,, ,,	—	—	54	—	—	—	45	—	—	Mn 1
,, (Ornamental Fittings)	—	—	48	—	1	—	26	—	25	—
Silvore (Corr.-Res. Al.) ...	—	—	61·9	0·3	—	—	18·4	—	19·5	—
Silzin Bronze (Corr.-Res. Al.)...	—	—	85	—	—	—	—	—	10	Si 5
,, ,, ,, ,, ,, ...	—	—	80·5	—	—	—	—	—	15	Si 4·5
,, ,, ,, ,, ,, ...	—	—	Bal.	—	—	—	—	—	20 (max.)	Si 4–5·5
Similor (Hardware, Pipe Fttgs.)	—	—	89·4	—	—	—	—	0·6	9·93	—
,, ,, ,, ,,	—	—	83·7	—	—	—	—	7·0	9·3	—
,, ,, ,, ,,	—	—	80	—	—	—	—	—	20	—
,, ,, ,, ,,	—	—	89–80	—	—	—	—	0–7	9–20	—
Sin-chu (Japanese Brass) ...	—	—	66·5	0·1	—	—	—	—	33·4	—
Skleron (Rollg. & Forg. Al, H.T.)	Bal.	—	2–3	—	—	—	—	—	12·5	Mn 0–5 : Li 0·1
,, ,, ,, ,, ,,	82·5	—	3·0	—	—	—	—	—	13·0	Mn 0·7 : Li 0·8

PERCENTAGE COMPOSITION OF NON-FERROUS ALLOYS—(*continued*).

Description of Alloy.	Aluminium.	Chromium.	Copper.	Iron.	Lead.	Magnesium.	Nickel.	Tin.	Zinc.	Miscellaneous.
Skleron (Zinc-Duralumin) ...	Bal.	—	3	0·4	—	—	—	—	12	Mn 0·6 : Si 0·5 : Li 0·1
,, ,, ,, ...	Bal.	—	3·0	0·27	—	—	—	—	12·0	Mn 0·6 : Si 0·25 : Li 0·1
Sodium-Zinc Alloy (Deoxidiser for Brasses)	—	—	—	—	—	—	—	—	98	Na 2
Solders, Miscellaneous :—										
For Britannia Metal ...	—	—	6	—	—	—	—	94	—	—
,, ,, ,, ...	—	—	—	—	42	—	—	42	—	Hg 16
,, Cast Iron & Steel ...	—	—	42–60	—	—	—	1–10	—	Bal.	Si 3·0 (max.)
,, Commutator Sections	—	—	—	—	37·5	—	—	Bal.	—	Sb 3·0 (max.)
,, Electrical Apparatus	—	—	0·25	—	97·25	—	—	—	—	Ag 2·50
,, Pewter	—	—	—	—	25	—	—	50	—	Bi 25
,, ,, ...	—	—	—	—	25	—	—	25	—	Bi 50 (M.Pt. 95°C.)
,, ,, ...	—	—	—	—	66·7	—	—	—	—	Cd 25 : Bi 8·3 (M.Pt. 100°C.)
,, Sheet Metal	—	—	—	—	93	—	—	3	—	Hg 4
,, Tin	—	—	—	—	25	—	—	50	—	Bi 25
,, ,, ...	—	—	—	—	15	—	—	80	—	Bi 5
German Subs. for Sft. Sldrs.	—	—	—	—	80	—	—	10	—	Cd 10
,, ,, ,, ,, ,,	—	—	—	—	75–90	—	—	5–24·5	—	Bi 0·5–5 : Cd 3·0 (max.)
Plumbers' Solder (B.N.-F.M.R.A.)	—	—	—	—	98·25	—	—	1·50	—	Cd 0·25
Plumbers' Solder (Cadmium Alloy)	—	—	—	—	68	—	—	22	—	Cd 10
,, ,, ,,	—	—	—	—	68	—	—	23	—	Cd 9
White	—	—	45	—	—	—	10	—	45	—
Solders, Soft :—										
B.S.S. No. 219 (1925) :										
Grade A (Low M.Pt.) ...	—	—	—	0·02 (max.)	Bal.	—	—	64–66	—	Sb 1·0 (max.) : As 0·05 (max.) : Tot. Imp. 0·25 (max.)

Description of Alloy.	Aluminium.	Chromium.	Copper.	Iron.	Lead.	Magnesium.	Nickel.	Tin.	Zinc.	Miscellaneous.
Solders, Miscellaneous—Contd.										
Grade B (Tinsmiths') ...	—	—	—	0·02 (max.)	Bal.	—	—	49–51	—	Sb 2·5–3·0 : As 0·05 (max.) : Tot. Imp. 0·25 (max.)
Grade C (General Work)	—	—	—	0·02 (max.)	Bal.	—	—	39–41	—	Sb 2·0–2·4 : As 0·05 (max.) : Tot. Imp. 0·25 (max.)
Grade D (Plumbers') ...	—	—	—	0·02 (max.)	Bal.	—	—	29–31	—	Sb 1·0–1·7 : As 0·05 (max.) : Tot. Imp. 0·25 (max.)
Grade E (Spec. Electl.) ...	—	—	—	—	Bal.	—	—	94·5–95·5	—	Sb 0·50 (max.) : Tot. Imp. 0·25 (max.)
Grade F (Gen. Electl.) ...	—	—	—	0·02 (max.)	Bal.	—	—	49–51	—	Sb 0·50 (max.) : As 0·05 (max.) : Tot. Imp. 0·25 (max.)
Grade G (Dipping Baths, etc.)	—	—	—	0·02 (max.)	Bal.	—	—	41–43	—	Sb 0·40 (max.) : As 0·05 (max.) : Tot. Imp. 0·25 (max.)
Grade H (Lead Cable Wiped Joints)	—	—	—	0·02 (max.)	Bal.	—	—	34–36	—	Sb 0·30 (max.) : As 0·05 (max.) : Tot. Imp. 0·25 (max.)
Grade J (Dipping Baths)	—	—	—	0·02 (max.)	Bal.	—	—	29–31	—	Sb 0·30 (max.) : As 0·05 (max.) : Tot. Imp. 0·25 (max.)
For Electric Fittings ...	—	—	—	—	5·5	—	—	94·5	—	—
High Melting Point... ...	—	—	—	—	96	—	—	4	—	—
Plumbers' Solder	—	—	—	—	50	—	—	50	—	—
,, ,, ...	—	—	—	—	66·66	—	—	33·33	—	M.Pt. 440° F.
,, ,, ...	—	—	—	—	68–67·5	—	—	30·5	—	Sb 1·5–2·0
,, ,, ...	—	—	—	—	60	—	—	38	—	Sb 2
,, ,, ...	—	—	—	—	60	—	—	39	—	Sb 1
Tinsmiths' ,, ...	—	—	—	—	33·33	—	—	66·66	—	—
,, ,, ...	—	—	—	—	40	—	—	60	—	—
Sorel's Alloy	—	—	1	1	—	—	—	—	98	—

PERCENTAGE COMPOSITION OF NON-FERROUS ALLOYS—(*continued*).

Description of Alloy.	Aluminium.	Chromium.	Copper.	Iron.	Lead.	Magnesium.	Nickel.	Tin.	Zinc.	Miscellaneous.
Sorel's Alloy	—	—	10	10	—	—	—	—	80	—
Spandau	2–3·5	—	4–6	—	—	—	—	—	Bal.	—
Special Silumin (Piston Alloy, Cast, H.T.)	Bal.	—	0·9	—	—	1·0	2·5	—	—	Si 12
Special Silumin (Cast Alloy, Modified)	Bal.	—	—	—	—	0·25	—	—	—	Co 0·4 : Si 9–10
Speculum (Mirrors)	—	—	66–88	—	—	—	—	34–12	—	—
,, ,, ...	—	—	70–65	—	—	—	—	30–35	—	—
Speculum :										
Birr Castle Reflector ...	—	—	70·3	—	—	—	—	29·7	—	—
Chinese	—	—	80·8	—	—	—	—	10·7	—	Sb 8·5
Cooper's	—	—	57·8	—	—	—	—	27·3	3·6	As 1·2 : Pt 10
Cu_4 Sn	—	—	68·25	—	—	—	—	31·75	—	—
Edwards	—	—	69·8	—	—	—	—	25·1	2·6	As 2·4
English	—	—	66·6	—	—	—	—	33·4	—	—
Laderig's	—	—	70	—	—	—	—	30	—	—
Mudge's	—	—	68·82	—	—	—	—	31·18	—	—
Richardson's	—	—	65·3	—	—	—	—	30	0·7	As 2·0 : Si 2·0
Ross Reflector	—	—	68·21	—	—	—	—	31·79	—	—
Sallit's	—	—	64·6	—	—	—	4·1	31·3	—	—
Spiauter (Hard Zinc)	—	—	2	—	—	—	—	—	90	Sb 8
Spring Brass	—	—	72	—	—	—	—	—	28	—
,, ,, ...	—	—	66·67	—	—	—	—	—	33·33	—
Stainless Invar	—	9	—	36·5	—	—	—	—	—	Co 54·5
Stalanium (Corr.-Res., *as* Hydronalium)	92·0	—	—	—	—	7·0	—	—	—	Sb 0·5
Stalinit (Hard Alloy—before melting process)	—	21	—	42	—	—	—	—	—	Mn 18 : Si 1 : C 8 : Bal. Pitch
Standard Silver	—	—	7·25	—	—	—	—	—	—	Ag 92·75
,, ,, ...	—	—	7·5	—	—	—	—	—	—	Ag 92·5
Stanniol	—	—	0·33	—	0·7	—	—	98·9	—	—
,, ...	—	—	1	0·1	2·4	—	0·3	96·2	—	—
Stay Alloy (Die Castgs., close grained)	88·9	—	11·0	—	—	—	—	—	—	Ti 0·1
Steel Bronze (Cast or Wrt.) ...	1	—	52–59	1	—	—	—	—	36–43	Mn 2·5–3·0

Description of Alloy.	Alu-minium.	Chrom-ium.	Copper.	Iron.	Lead.	Mag-nesium.	Nickel.	Tin.	Zinc.	Miscellaneous.
Stellite (High Speed Cutting Tools, &c.)										
1909	—	20	—	—	—	—	—	—	—	C 2 : W 10 : Co 50 : Mo 18
Modern, 1938	—	25–35	—	—	—	—	—	—	—	C 2–3 : W 10–20 : Co 40–55
Cast Tools	—	25–30	—	3–5	—	—	—	—	—	C 2·5–2·75 : W 15–20 : Co 45–50
,, ,, ...	—	10·77	—	3·11	—	—	Nil	—	—	C 0·87 : Si 0·77 : S 0·084 : P 0·040 Mn 2·04 : W Nil : Co 59·50 : Mo 22·50
Deloro Smelting & Rfg. Co.	—	25–30	—	—	—	—	—	—	—	W 5–20 : Co 45–65
German	—	26·4	—	11	—	—	18·5	—	—	C 0·9 : Si 0·9 : W 8·7 : Co 19·8 : V 9 : Mo 4·4
Max. Corrosion—Resist'ce	—	28	—	—	—	—	—	—	—	C 2 : W 15 : Co 55
No. 1	—	28–32	—	—	—	—	—	—	—	C 2·5 : W 10–15 : Co 45–52
No. 3	—	28–32	—	—	—	—	—	—	—	C 2·5 : W 12–16 : Co 48–53
No. 6	—	27–30	—	—	—	—	—	—	—	W 2–6 : Co 63–68
Rod for Hardsurfacing Valves, &c.	—	30·4	—	1·0	—	—	0·5	—	—	C 1·32 : Si 1·36 : W 4·26 : Co 60·4
,, ,, ,,	—	29·6	—	2·2	—	—	0·43	—	—	C 1·33 : Si 1·08 : W 6·85 : Co 57·9
,, ,, ,,	—	28·2	—	0·7	—	—	0·4	—	—	C 1·22 : Si 0·35 : W 11·2 : Co 56
Valve Seats (Cast) ...	—	26·54	—	—	—	—	—	—	—	C 2·60 : W 13·88 : Co 54·05
,, ,, ,, ...	—	29·64	—	—	—	—	—	—	—	C 2·63 : W 14·53 : Co 49·36
Sterlin (Base for Pl. Tableware)	—	—	68·52	—	0·76	—	17·88	—	12·84	—
,, ,, ,, ,, ,,	—	—	68	0·75	—	—	18	—	13·25	—

PERCENTAGE COMPOSITION OF NON-FERROUS ALLOYS—(*continued*).

Description of Alloy.	Alu-minium.	Chrom-ium.	Copper.	Iron.	Lead.	Mag-nesium.	Nickel.	Tin.	Zinc.	Miscellaneous.
Sterling (Solder)	11	—	2·5	—	8·3	—	—	62	15	Sb 1·2
Sterling Brass (Cast)	—	—	66·2	0·7	—	—	—	—	33·1	—
Sterling Silver	—	—	7·5	—	—	—	—	—	—	Ag 92·5
Sterlite (Corr.-Res. Fittings)	—	—	54·3	0·6	0·6	—	27·3	0·4	16·6	Mn 0·2
Stern Tube White Metal (Bushes for Do.)	—	—	2·3	—	—	—	—	65·1	32·6	—
,, ,, ,, ,,	—	—	1·4	—	—	—	—	69	29·6	Sb Nil
,, ,, (Admty. Specn.)	—	—	1·25–1·75	—	—	—	—	Bal.	29·25–29·75	Imp. 0·5 (max.)
Sterro Metal (Hydraulic Cyls.)	—	—	60	1·8	—	—	—	—	38·2	—
,, ,, ,, ,,	—	—	55	1·8	—	—	—	0·83	42·4	—
,, ,, ,, ,,	—	—	55·5	2·5	—	—	—	—	42·0	—
,, ,, ,, ,,	—	—	59–56	—	1–4	—	—	—	40	—
Stewart Lumite :										
No. 5 (Cast Pistons, &c.)	Bal.	—	4	—	—	—	4	—	—	Si 1·75
10 (Cast Cyl. Heads, &c.)	Bal.	—	4	—	—	—	—	—	—	Si 5
12 (Light Castings) ...	Bal.	—	8	—	—	—	—	—	—	Si 1·5
13 (Intricate Castings) ...	Bal.	—	—	—	—	—	—	—	—	Si 12·5
35 (Light Castings) ...	Bal.	—	—	—	—	—	—	—	—	Si 5
Stirling Metal	—	—	66·2	0·66	0·02	—	—	—	33·11	—
Stone's Gearwheel Bronze ...	—	—	88·5	—	0·25	—	—	11	—	P 0·25
,, ,, ,, ...	—	—	88·7	—	—	—	—	11	—	P 0·3
Stone's No. 3 Manganese Bronze (Propellers)	1·8	—	60·8	1·0	—	—	—	—	35·0	Mn 1·4
Stronger-Than-Steel (Corr.-Res. Die-Castings)	10	—	89	1	—	—	—	—	—	—
Studal (Rollg. & Forg. Alloy)...	97·7	—	—	—	—	1·0	—	—	—	Mn 1·3
Suhler White Copper	—	—	40·4	—	2·6	—	31·6	—	25·4	—
Sun Bronze	10	—	30–40	—	—	—	—	—	—	Co 60–50
Super-Duralumin(Wrt.Lt.Alloy)	Bal.	—	4·5	—	—	0·5	—	—	—	Si 1·2 : Mn 0·5
,, ,, ,, ,,	Bal.	—	4·4	—	—	0·35	—	—	—	Si 0·8 : Mn 0·75
,, ,, (American)	Bal.	—	4·40	0·25	—	0·54	—	—	—	Si 0·79 : Mn 0·61
,, ,, DM 31 ...	Bal.	—	3·65	0·30	—	1·39	—	—	—	Si 0·63 : Mn 1·18
,, ,, RF 1 ...	Bal.	—	4·01	—	—	1·77	—	—	—	—
,, ,, RF 2 ...	Bal.	—	4·09	—	—	1·12	—	—	—	—

Description of Alloy.	Alu-minium.	Chrom-ium.	Copper.	Iron.	Lead.	Mag-nesium.	Nickel.	Tin.	Zinc.	Miscellaneous.
Super-Manganese Bronze (Corr. -Res.)	6·50	—	69·00	2·50	—	—	—	—	20·00	Mn 2·00
Super Nickel (Corr.- Res. Cond. Tubes)	—	—	70	—	—	—	30	—	—	—
Super Permalloy No. 1 (High Init. Permeability)	—	—	—	15–30	—	—	70–85	—	—	Co 4–0 : Mn 1–0 : Si 2–0
Super Permalloy No. 2 (Greater Stability at Room Temp.)	—	5–0	—	10–60	—	—	40–90	0·1–5	—	Oth. Elem. (Si, Mn or Al) 2 (max.)
Super Permalloy No. 3 (High Init. Permeability)	—	1–6	—	5–20	—	—	84·5–95	—	—	Ti 0·1–2
Superbronze (Corr.-Res.) ...	1·2	—	56·8	1·3	—	—	—	—	37·5	Mn 3·2
,, ,, ...	5·1	—	68·9	2·0	—	—	—	—	20·9	Mn 3·0
Supermagaluma	Bal.	—	—	—	—	5·4	—	—	—	Mn 0·15
Superior (Heat & Corr.-Res.) ...	—	16–23	—	—	—	—	76–84	—	—	C Some
,, ,, ,, ,, ...	—	19·5	—	0·5	—	—	Bal.	—	—	Mn 2·0
Superston L. 189 Bronze (Hi. Ten. Corr.-Res.)	9·73	—	79·83	5·42	—	—	4·97	—	—	Mn Trace
,, ,, ,, ,,	8–12	—	Bal.	4–6	—	—	4–6	—	—	—
Superston L. 189 Bronze (D.T.D. 197)	8–12	—	Bal.	4–6	—	—	4–6	—	—	Tot. Imp. 0·30 (max.)
Supra (Low Expan. Piston Alloy)	73·0	—	4·5	0·7	—	—	—	—	—	Si 20·0 : Mn 1·8
,, ,, ,, ,, ,,	70–74·2	—	4–5	0·3–1·0	—	—	—	—	—	Si 20–22 : Mn 1·5–2·0
Suprakolben Metall (Pistons)...	Bal.	—	5	0·7	—	—	—	—	—	Si 20 : Mn 2
Susini	Bal.	—	1·5	—	—	—	—	—	0·5	Mn 1–3
,, ...	Bal.	—	2·5	—	—	—	—	—	1·0	Mn 1–5
,, ...	Bal.	—	4·5	—	—	—	—	—	1·5	Mn 2–8
Sweetalloy 20 (Corr.-Res. Alloy)	—	18	—	Bal.	—	—	36	—	—	C 0·3 : Mn 0·5
Sylcum (Low Ex. Piston Alloy)	81·8	—	7·3	—	—	—	1·4	—	—	Si 9·0 : Mn 0·5
T—Metal	Bal.	—	0·1	0·5	—	3·8	—	—	—	Si 0·5
Talmi Gold	—	—	90	—	—	—	—	—	8·92	Au 0·91
,, ,, ...	—	—	86·4	0·3	—	—	—	1·1	12·2	—

PERCENTAGE COMPOSITION OF NON-FERROUS ALLOYS—(*continued*).

Description of Alloy.	Alu-minium.	Chrom-ium.	Copper.	Iron.	Lead.	Mag-nesium.	Nickel.	Tin.	Zinc.	Miscellaneous.
Tamtam	—	—	78	—	—	—	—	22	—	—
Tandem Metal (Bearing Alloy)	—	—	—	—	77·7	—	—	5·9	—	Sb 16·8
Tantalum-Base (Complex) Alloys:										
Tool Alloy	—	—	—	—	—	—	25 (max.)	—	—	C 0·8–5·0 : Ta Bal.
,, ,, ...	—	—	—	—	—	—	—	—	—	C 0·8–5·0 : Co 25 (max.) : Ta Bal.
,, ,, ...	—	—	—	25 (max.)	—	—	—	—	—	C 0·8–5·0 : Ta Bal.
,, ,, ...	—	25 (max.)	—	—	—	—	—	—	—	C 0·8–5·0 : Ta Bal.
,, ,, ...	—	—	—	—	—	—	—	—	—	C 0·8–5·0 : Mn 25 (max.) : Ta Bal.
,, ,, ...	—	25 (max.)	—	25 (max.)	—	—	25 (max.)	—	—	C 0·8–5·0 : Mn, Co and Ta 25 (max.)
Tantalum Bronze (Steam Valves)	10	—	Bal.	—	—	—	—	—	—	Mo 1·25 : Ta 0·20
Tantalum-Columbium-Iron Alloy (Hardener)	—	—	—	20	—	—	—	—	—	Ta 60 : Cb 20 : C Nil
Tarnac—*See* Manganin										
Taurus Bronze:										
Mark I (Gen. Purp. Gear Bro.)	—	—	87·7	—	—	—	—	12·0	—	P 0·3
Mark II (Softer—More Ductile)	—	—	89·7	—	—	—	—	10·0	—	P 0·3
Mark III (Hard-Wearing) ...	—	—	86·0	—	—	—	—	14·0	—	P Trace–0·06
Mark IV (Hi.Ten.Wear Res.)	—	—	88·25	—	—	—	1·0	10·5	—	P 0·25
Mark V (Gen. Purp.—Softer than I)	—	—	88·0	—	—	—	0·5	11·2	—	P 0·3
Mark VI (Admty. G.M.) ...	—	—	88·0	—	—	—	—	10·0	2	—
Mark VII (Hvy. Duty Brgs.)	—	—	81·7	—	—	—	1·0	12·0	—	P 0·3
Mark VIII (Gen. Purp. Leaded Bro.)	—	—	80·7	—	—	—	1·0	10·0	—	P 0·3
Mark IX (Softer than VII and VIII)	—	—	76·7	—	—	—	1·0	10·0	—	P 0·3
Mark X (Gen. Purp.—Softer than VI)	—	—	84	—	—	—	—	8	4	—
Mark XI (Gen. Purp.—Softer than X)...	—	—	85	—	—	—	—	5	5	—
Mark XII (Light Work) ...	—	—	88	—	—	—	—	6	6	—
Tea Lead	—	—	—	—	98	—	—	2	—	—

Description of Alloy.	Aluminium.	Chromium.	Copper.	Iron.	Lead.	Magnesium.	Nickel.	Tin.	Zinc.	Miscellaneous.
Tego (Bearing Alloy) ...	—	—	1–2	—	78–83	—	—	1·5–3	—	Sb 15–18 : As 0·3–0·8
Teledium(Cold-Rolled Pipes,etc.)	—	—	—	—	Bal.	—	—	—	—	Te 0·02–0·10
Telegraph Bronze (Switches,etc.)	—	—	80	—	7·5	—	—	5	7·5	—
Telektal (Rollg. & Forg. Al., H.T.)	97·8	—	—	0·5	—	—	—	—	—	Si 1·6 : Li 0·1
,, ,, ,, ,,	97·86	—	—	0·48	—	—	—	—	—	Si 1·58 : Li 0·08
Tellurium Lead (Corr.-Res. Pipes)	—	—	—	—	Bal.	—	—	—	—	Te 0·06
Tempaloy (Corr.-Res. Alloy) ...	—	—	95	—	—	—	4	—	—	Si 1
Tempaloy I (Corr.-Res. Alloy)	—	—	95·92	—	—	—	3	—	—	Si 0·8
,, II ,, ,, ,,	4·74	—	89·28	—	—	—	5	—	—	Si 0·96
Tenax Metal (Solder for Aluminium)	4·2–4·6	—	2·2–3·0	0·35 (max.)	1·2 (max.)	—	—	—	Bal.	—
,, ,, ,, ,,	4·4	—	2·56	0·35 (max.)	1·2 (max.)	—	—	—	Bal.	—
Tensilite (Gears,Wormwheels,etc.)	3·1	—	64	1·2	—	—	—	0·2	29	Mn 2·5
,, ,, ,, ,,	4·42	—	67	—	—	—	—	—	24	Mn 3·8
,, ,, ,, ,,	4·8	—	68·26	2·03	0·14	—	—	—	21·04	Mn 3·20 : Si 0·04
Tenual No. 226 (Cast Pistons, etc.)	87 (min.)	—	9·25–10·75	0·90–1·50	—	0·15–0·35	—	—	—	—
Termite...	—	—	2·90	—	73·80	—	—	5·74	—	Sb 14·50 : Cd 1·94 : As 0·97
Terne Metal (Bearing Alloy) ...	—	—	—	—	80·25	—	—	18	—	Sb 1·75
Tetmajer (Bushings, Fittgs.,etc.)	10	—	86·1	0·98	—	—	—	—	—	Si 2·48
,, ,, ,, ,,	7·1	—	89·7	0·72	—	—	—	—	—	Si 2·72
,, ,, ,, ,,	4·6	—	93·3	0·89	—	—	—	—	—	Si 0·98
Texas Metal	4·42	—	2·56	0·35 (max.)	1·2 (max.)	—	—	—	Bal.	—
Thalassal (Rollg. & Forg. Al.)	95·0	—	—	—	—	2·3	—	—	—	Mn 2·5 : Sb 0·2
Therlo (Resistance Alloy) ...	2	—	85	—	—	—	—	—	—	Mn 13
Thermalloy No. 50 (Heat and Corr.-Res.)	—	14–16	—	Bal.	—	—	33–37	—	—	C 0·5–0·7 : Mn 1 : Si 1
Thermalloy No. 72 (Heat and Corr.-Res.)	—	12–15	—	Bal.	—	—	58–62	—	—	C 0·5–0·7 : Mn 1·5 : Si 1·5
Thermionic Cathode Alloy ...	1·5–2·0	—	—	—	—	—	—	—	—	Zr Bal.

PERCENTAGE COMPOSITION OF NON-FERROUS ALLOYS—(*continued*).

Description of Alloy.	Alu-minium.	Chrom-ium.	Copper.	Iron.	Lead.	Mag-nesium.	Nickel.	Tin.	Zinc.	Miscellaneous.
Thermit (Bearing Alloy) ...	—	—	0·8–1·2	—	72–78·5	—	0·7–1·5	5–7	—	Sb 14–16 : As 0·3–0·8 : Cd 0·7–1·5
,, ,, ,, ...	—	—	1	—	72	—	3	4	—	Sb 20
,, ,, ,, ...	—	—	1·0	0·07	75·0	—	1·0	6·2	—	Sb 15·65 : Bi 0·01
Thoran (High Speed Cuttg. Tls.)	—	—	—	—	—	—	—	—	—	C 3·94 : W 95·85
Three-Twenty Alloy ...	77	—	3	—	—	—	—	—	20	—
Thurston's Alloy	—	—	6	—	—	—	—	14	80	—
Thurston's Brass	—	—	55	—	—	—	—	0·5	44·5	—
Tiers Argent (Ornmtal. Parts)	66·66	—	—	—	—	—	—	—	—	Ag 33·33
Tin-Antimony-Copper Al. :										
Brg. A. (Usual Proportions)	—	—	3–10	—	—	—	—	80–90	—	Sb 5–15
,, ,, (Admty.—General)	—	—	3–4	—	—	—	—	Bal.	Nil	Sb 8–9 : Imp. 0·5 (max.)
,, ,, (Admty.—Electrical)	—	—	2–7	—	—	—	—	Bal.	—	Sb 8–9
,, ,, (Air Min. D.T.D. 214)	—	—	3–4·25	—	—	—	0·6 (max.)	Bal.	—	Sb 6·5–7·5 : Tot. Imp 0·25 (max.)
,, ,, (Automobile) ...	—	—	4	—	—	—	—	89	—	Sb 7
,, ,, (C. Rod Big-End Brgs.)	—	—	3·5	—	—	—	—	93	—	Sb 3·5
,, ,, (D.T.D. 244) ...	—	—	5·5–7·5	—	—	—	0·6 (max.)	Bal.	—	Sb 6·0–7·0
,, ,, (For Heavy Loads)	—	—	7·5	—	—	—	—	85	—	Sb 7·5
,, ,, ,, ,, ,,	—	—	6	—	—	—	—	87	—	Sb 7
,, ,, (For Med. Loads—G.W.Rly.)	—	—	22	—	—	—	—	67	—	Sb 11
,, ,, (For Med. Loads—L.N.E.R.)	—	—	7·8	—	—	—	—	76·7	—	Sb 15·5
,, ,, ,, ,, ,,	—	—	2	—	—	—	—	72	—	Sb 26
,, ,, (For Valve Rods & Ecc. Collars)	—	—	5	—	—	—	—	71	—	Sb 24
,, ,, ,, ,, ,,	—	—	8	—	—	—	—	82	—	Sb 10
,, ,, (Hvy. Axle Brgs.) ...	—	—	9·1	—	—	—	—	72·7	—	Sb 18·2
,, ,, (High-Speed Shafts)	—	—	11	—	—	—	—	74	—	Sb 15
,, ,, (Ingots—B.S.S. 2B1)	—	—	3·75–4·25	—	—	—	—	Bal.	—	Sb 8–10 : Tot. Imp. 0·50 (max.)

Description of Alloy.	Aluminium.	Chromium.	Copper.	Iron.	Lead.	Magnesium.	Nickel.	Tin.	Zinc.	Miscellaneous.
Tin-Antimony-Copper Alloys—Contd.										
Brg. Al. (Ingots—B.S.S. 2B22)	—	—	3·75–4·25	—	—	—	0·60 (max.)	Bal.	—	Sb 3·5–4·0 : Tot. Imp. 0·50 (max.)
,, ,, (Loco. Axle Brgs.)...	—	—	4	—	—	—	—	82	—	Sb 14
,, ,, (Loco. Big-End Brgs. &c.)	—	—	10	—	—	—	—	80	—	Sb 10
,, ,, (Main Brgs., Auto. & Aero.)	—	—	3·5	—	—	—	—	86	—	Sb 10·5
,, ,, (Main & C.R. Brgs., as last)	—	—	4·5	—	—	—	—	90	—	Sb 5·5
,, ,, (Main & C.R. Brgs., Daimler Eng.) ...	—	—	10	—	—	—	—	78	—	Sb 12
,, ,, (Main & C.R. Brgs., I.C. Engines)	—	—	6	—	—	—	—	86	—	Sb 8
,, ,, ,, ,, ,,	—	—	7	—	—	—	—	84	—	Sb 9
,, ,, (Motor Brgs., L. & Y. Rly.)	—	—	4	—	—	—	—	82	—	Sb 14
,, ,, (Railway Car. Brgs.)	—	—	5·55	—	—	—	—	83·33	—	Sb 11·11
,, ,, ,, ,, ,,	—	—	2	—	—	—	—	90	—	Sb 8
,, ,, (Slide Valves) ...	—	—	5·6	—	—	—	—	83·2	—	Sb 11·2
,, ,, (Valve Packing) ...	—	—	5	—	—	—	—	71	—	Sb 24
Tin-Cadmium Alloys : Dental Alloy	—	—	—	—	—	—	—	66·66	—	Cd 33·33
Tin-Lead-Antimony Alloys : Light Brgs. on Stry. Motors	—	—	—	—	10	—	—	80	—	Sb 10
Tin-Lead-Antimony-Cop. Al. : Brg. Al. (Diesel Main Brgs., German Sub.)	—	—	8·45	—	5·5	—	—	65·2	—	Sb 20·8
,, ,, (For Hvy. Loads & High Speeds)	—	—	3	—	6	—	—	80	—	Sb 11
,, ,, (For Lt. Duty Auto. Eng. Brgs.)	—	—	3	—	25	—	—	61·5	—	Sb 10·5
,, ,, (Main Brgs. Auto. & Aero. Eng.)	—	—	2·5	—	4	—	—	83	—	Sb 10·5

PERCENTAGE COMPOSITION OF NON-FERROUS ALLOYS—(*continued*).

Description of Alloy.	Alu-minium.	Chrom-ium.	Copper.	Iron.	Lead.	Mag-nesium.	Nickel.	Tin.	Zinc.	Miscellaneous.
Tin-Lead-Antimony-Cop. Als.—Contd.										
Brg. Al. (Main Brgs. Gas Eng.)	—	—	4·90	—	16·88	—	—	71·44	—	Sb 6·78
,, ,, (Thrust Block of "Nürnberg")	—	—	5·5	—	3·08	—	—	79	—	Sb 12·48
Tin-Mercury-Copper-Lead Al. :										
Brg. Alloy (Thrust Block of "Baden")	—	—	2·30	—	0·59	—	—	90·66	—	Hg 6·45 : Sb Trace
,, ,, ,, ,,	—	—	1·7	—	0·60	—	—	94·3	—	Hg 3·5 : Sb Trace
Tin-Nickel-Tungsten Alloys :										
Brg. Alloy for High Speeds	—	—	—	—	—	—	10·4	83·3	—	W 6·3
Tin-Zinc-Copper Alloys :										
Bearing Bushes (Russian) ...	—	—	1·3	—	—	—	—	72·2	26·5	—
Tinfoil	—	—	—	Trace	—	—	—	96·8	—	Sb 3·2
,, ...	—	—	4	—	8	—	—	87·5	—	Sb 0·5
Tinicosil (Corr.-Res. Die Castgs.)	—	—	42	—	1	—	16	—	41	—
Tinicosil No. 10 (Cold-Drwn. Corr.-Res. Al.)	—	—	46·75	—	1·5	—	10	—	41·75	—
Tinicosil No. 15 (Hard-Drwn. Corr.-Res. Al.)	—	—	42	—	—	—	15 (min.)	—	Bal.	—
Tinsel	—	—	—	—	39·6	—	—	60·4	—	—
Tinsmith's Solder (M.Pt. 340°F.)	—	—	—	—	33·3	—	—	66·7	—	—
Tinsmith's Solder—*See also* Solders, Soft										
Tissier's Metal (Hardware) ...	—	—	97	—	—	—	—	0·5	2	—
,, ,, ,, ...	—	—	97	—	—	—	—	—	2	As 1
Tital Bronze (Welding Rod) ...	—	—	59·28	—	—	—	—	0·6	40·12	—
Titan Bronze A (Cast & Wrt. Corr.-Res. Al.)	0·3	—	53·5	0·3	—	—	—	—	46	—
Titan Manganese Bronze (Corr.-Res. Bolts, etc.)	—	—	59	1·1	—	—	—	0·71	38·79	Mn 0·40
Titan Resistaloy Bronze (Hi. Ten. Wrt. Corr.-Res.) ...	2	—	59	0·25	—	—	1	—	Bal.	Si 0·5
Titan-Seewasser (Cast Corr.-Res. Al.)	Bal.	—	—	—	—	2–4	—	—	—	Mn 1·2–1·5 : Sb *or* Ti 0–02

Description of Alloy.	Alu-minium.	Chrom-ium.	Copper.	Iron.	Lead.	Mag-nesium.	Nickel.	Tin.	Zinc.	Miscellaneous.
Titanal (Cast Pistons, H.T.) ...	81·9	—	12·3	0·7	—	0·8	—	—	—	Si 4·3
Titanium-Aluminium (Grain-Refing. & Hardg.) ...	Bal.	—	—	—	—	—	—	—	—	Ti 5
,, ,, ,, ,,	Bal.	—	—	—	—	—	—	—	—	Ti 15
,, ,, ,, ,,	Bal.	—	—	—	—	—	—	—	—	Ti 25
,, ,, ,, ,,	Bal.	—	—	—	—	—	—	—	—	Ti 50
Titanium-Aluminium Copper (Grain Refining)	Bal.	—	25	—	—	—	—	—	—	Ti 10–15
,, ,, ,, ,,	Bal.	—	50	—	—	—	—	—	—	Ti 20–25
Titanium-Aluminium-Copper: *See also* Titanium-Copper-Aluminium										
Titanium-Aluminium-Manganese (Grain Refining, etc.) ...	Bal.	—	—	—	—	—	—	—	—	Ti 20–25 : Mn 50
Titanium-Copper-Aluminium (Grain Refining)	16·70	—	56·03	1·80	—	—	—	—	—	Ti 21·92 : Si 1·19 : C Nil
Titanium-Copper-Aluminium— *See also* Titanium-Aluminium-Copper										
Titanium-Nickel-Aluminium (Grain-Rfing. & Toughening)	Bal.	—	—	—	—	—	40	—	—	Ti 20–25
Tizit (High-Speed Cutting Tools)	—	4	—	3–40	—	—	—	—	—	C 2–4 : Ti 4–15 : W 40–84 : Ce 1–5
Tobin Bronze, Cast (1875) ...	—	—	58·2	—	—	—	—	2·3	39·5	—
,, ,, ,, ...	—	—	60	—	—	—	—	2	38	—
,, ,, ,, ...	—	—	59	—	—	—	—	2	39	—
,, ,, ,, (Bearing Al.)	—	—	59	0·11	0·31	—	—	2·16	38·4	—
,, ,, Rolled	—	—	61·2	0·18	0·36	—	—	0·9	37·5	—
,, ,, ,, ...	—	—	60	—	—	—	—	0·75	39·25	—
,, ,, Wrt. Corr.-Res....	—	—	59–62	0·1 (max.)	0·3 (max.)	—	—	0·5–1·5	Bal.	—
,, ,, Tubing and Rods (S.A.E. No. 76)	—	—	59–61	0·10 (max.)	0·30 (max.)	—	—	0·5–1·0	Bal.	—
Tombac (Hardware, Ornaments, etc.)	—	—	85	—	6·0 (max.)	—	—	9	6	As 0·3 (max.) : Sb 0·3 (max.) : Bi 0·1 (max.)

PERCENTAGE COMPOSITION OF NON-FERROUS ALLOYS—(*continued*).

Description of Alloy.	Aluminium.	Chromium.	Copper.	Iron.	Lead.	Magnesium.	Nickel.	Tin.	Zinc.	Miscellaneous.
Tombac (Hardware, Ornaments, etc.) :—Contd.	—	—	91	—	—	—	—	—	9	—
Arcet	—	—	82·3	—	—	—	—	—	17·7	—
Cast	—	—	87	—	—	—	—	—	13	—
Common	—	—	71·5	—	—	—	—	—	28·5	—
For Buttons	—	—	99·15	—	—	—	—	—	0·85	—
,, ,, ...	—	—	83·9	—	—	—	—	—	16·1	—
French	—	—	80	—	—	—	—	3	17	—
,, ...	—	—	80	—	—	—	—	—	20	—
German	—	—	85	—	—	—	—	9	6	Sb 0·3 (max.) : Bi 0·1 (max.) : As 0·3 (max.)
Golden	—	—	82	—	—	—	—	0·5	17·5	—
Ludenscheidt	—	—	82·3	—	—	—	—	—	17·5	—
Oker	—	—	85·3	—	—	—	—	—	14·7	—
Red Vienna	—	—	97·8	—	—	—	—	—	2·2	—
Sheet, Paris	—	—	92	—	—	—	—	—	8	—
,, ,, ...	—	—	88	—	—	—	—	—	12	—
,, ,, ...	—	—	84	—	—	—	—	—	16	—
Tombasil (Cast Wear-Res. Machine Parts)	—	—	75·16	—	—	—	—	—	Bal.	Si 3·72
,, ,, ,, ,,	—	—	67·16	—	—	—	—	—	Bal.	Si 1·71
,, ,, ,, ,,	—	—	81·5	—	—	—	—	—	13·7	Si 4·8
Tophet A (Elect. Resistance Wire to 1150° C.) ...	—	20	—	—	—	—	80	—	—	—
,, ,, ,, ,,	—	19·6	—	0·45	—	—	78	—	—	Mn Trace : C 0·13 : Si 1·0
Tophet B (Heat. and Corr.-Res.)	—	16–23	—	Bal.	—	—	67–75	—	—	C 0·13–0·20
,, C (Elec. Res. Wire to 1000° C.) ...	—	16	—	24	—	—	60	—	—	—
,, ,, ,, ,, ,,	—	15·44	—	23·17	—	—	59·8	—	—	C 1·53 : Si 0·06
,, D (Elec. Res. Wire to 850° C.)	—	20	—	50	—	—	30	—	—	—
,, X (Heat and Corr.-Res.)	—	7–11	—	Bal.	—	—	58–66	—	—	C 0·13–0·20

Description of Alloy.	Aluminium.	Chromium.	Copper.	Iron.	Lead.	Magnesium.	Nickel.	Tin.	Zinc.	Miscellaneous.
Torpedo Bronze (Torpedo Parts)	—	—	62–59	—	—	—	—	0·5–1·5	Bal.	—
Toucas Metal (Ornamental White Metal Parts) ...	—	—	35·7	7·14	7·14	—	28·6	7·14	7·14	Sb 7·14
Tournay's Brass (Cheap Jewellery, etc.)	—	—	82·54	—	—	—	—	—	17·46	—
Tourun Leonard's Metal (Brg.Al.)	—	—	10	—	—	—	—	90	—	—
Trabuk Metal (Subs. for Nickel Silver)	—	—	—	—	—	—	5·5	87·5	—	Sb 5 : Bi 2
Trodaloy (Resistance Welding Electrodes)	—	—	97	0·4	—	—	—	—	—	Co 2·6
Trodaloy No. 1 (H.T. Hi. Conductivity Alloy)	—	—	97	—	—	—	—	—	—	Be 0·4 : Co 2·6
Trodaloy No. 2 (H.T. Hi. Conductivity Alloy)	—	0·4	99·5	—	—	—	—	—	—	Be 0·1
Tuc-Tur (Rod)	—	—	61·2	0·3	—	—	17·6	—	20·9	—
,, ,, (Sheet)	—	—	58·6	0·3	—	—	12·5	—	28·5	—
Tuf-Stuf (Wrt. Corr.—Res. A.)	8–14	—	85–89	2–14	—	—	—	—	—	—
,, ,, ,, ,, ,, ,,	8·4	—	87·6	2·1	—	—	—	—	1·2	Mn 0·4
Tungsten—Base Alloys : Drilling Alloys	—	—	—	0·84–5·8	—	—	—	—	—	C 1·86–5·68 : W 80 -93·5 : Mo 0·67-5·0 : Si 0·36–6·35 : Co 0·1–11·5
High-Density Alloy ...	—	—	2–5	—	—	—	3–5	—	—	W 90–95
,, ,, ,, (16·3–16·5)	—	—	5	—	—	—	5	—	—	W 90
Tungsten Brass	2·8	—	59·73	—	—	—	0·75	0·15	33·97	Mn 0·7 : W 2
,, ,, ...	—	—	60	—	—	—	14	—	22	W 4
Tungsten Bronze	—	—	90	—	—	—	—	—	—	W 10
,, ,, (Hard) ...	—	—	95	—	—	—	—	3	—	W 2
Tungsten-Cobalt Alloys : Dies for Wire-Drawing ...	—	—	—	—	—	—	—	—	—	W 75–95 : Co 25–5
Tungsten-Cobalt-Iron Alloys : Cutting Tools (Cast & Wrkd.)	—	—	—	45	—	—	—	—	—	W 30 : Co 25
Tungsten-Iron Alloys—*See* Ferro-Tungsten										

PERCENTAGE COMPOSITION OF NON-FERROUS ALLOYS—(*continued*).

Description of Alloy.	Alu-minium.	Chrom-ium.	Copper.	Iron.	Lead.	Mag-nesium.	Nickel.	Tin.	Zinc.	Miscellaneous.
Tungsten-Nickel Alloys :										
Breech-Pieces of Guns ...	—	—	—	—	—	—	2–10	—	—	W Bal.
Heat-Resisting Alloy, Weld, Rods, &c.	—	—	—	—	—	—	25	—	—	W 75
Tungum :										
(Cast & Wrt. Corr. Res. Al.)	1	—	82·75	0·25	—	—	1	—	14	Si 1
,, ,, ,, ,, ,,	0·9	—	83·0	0·8	—	—	1·0	—	13·1	Si 1·2
,, ,, ,, ,, ,,	0·99	—	82·48	0·3	—	—	0·72	—	14·6	Si 0·76 : Mn 0·07
,, ,, ,, ,, ,,	1	—	83	—	—	—	1	—	14	Si 1
(Sheets, Tubes, &c.—D.T.D. Specns.)	0·7–1·2	—	81–86	0·25 (max.)	0·05 (max.)	—	0·8–1·4	0·10 (max.)	Bal.	Si 0·8–1·3 : Mn 0.10 (max.)
Turbadium :										
(Corr.-Res. Al., Propllrs. &c.)	—	—	50	0·8–1·0	—	—	2–2·25	0·5	45	Mn 1·5–2·0
,, ,, ,, ,,	0·20	—	48·00	1·00	0·10	—	2·00	0·50	46·45	Mn 1·75
,, ,, ,, ,,	—	—	50·96	1·36	0·30	—	1·75	0·47	43·00	Mn 2·21
,, ,, ,, ,,	—	—	51·0	1·4	0·3	—	1·75	0·5	43·0	Mn 2·2 : As Trace
Turbiston (Corr.-Res. Al., Propellers, &c.)	0·3	—	56·3	1·2	—	—	—	0·9	41·0	Mn 0·3
,, ,, ,, ,,	1·0	—	55	0·84	—	—	2·0	—	41·0	Mn 0·16
Tutania (Brg. Alloy, Domestic Ware, &c.) :										
Cast	—	—	0·7	—	7·62	—	—	91·4	0·25	—
,, ...	—	—	2·5	0·13	0·32	—	—	92·4	—	Sb 4·6
English	—	—	2·7	—	—	—	—	80	1·3	Sb 16
Plate	—	—	2·7	—	6·0	—	—	90	1·3	—
Tutenag	—	—	44	—	—	—	40	—	16	—
,, ...	—	—	43·8	—	—	—	15·6	—	40·6	—
,, ...	—	—	45·7	—	—	—	17·33	—	36·96	—
Two-To-One (Drawn or Spun)	—	—	66·66	—	—	—	—	—	33·33	—
Type Metal :										
Electrotype (Limits) ...	—	—	—	—	96–92	—	—	2–4	—	Sb 2–4
Intertype (Limits)	—	—	—	—	Bal.	—	—	3–5	—	Sb 11–14
,, ,, ...	—	—	—	—	88–83	—	—	2–4	—	Sb 10–13
Linotype (Generally used)...	—	—	—	—	87·5–87	—	—	2·5–3·0	—	Sb 10
Linotype (Limits)	—	—	—	—	88–83	—	—	2–4	—	Sb 10–13

Description of Alloy.	Aluminium.	Chromium.	Copper.	Iron.	Lead.	Magnesium.	Nickel.	Tin.	Zinc.	Miscellaneous.
Type Metal—Contd.										
Linotype (Limits)	—	—	—	—	Bal.	—	—	2–5	—	Sb 10–13
Monotype Ordinary (Limits)	—	—	—	—	Bal.	—	—	7–10	—	Sb 14–19
,, Display (Limits)	—	—	—	—	Bal.	—	—	8–12	—	Sb 16–24
,, (Good Aver. Alloy)	—	—	—	—	77	—	—	8	—	Sb 15
,, (Higher Grade) ...	—	—	—	—	Bal.	—	—	10 (max.)	—	Sb 20 (max.)
Older Single Movable Type...	—	—	—	—	Bal.	—	—	5–20	—	Sb 25–30
Stereotype (Limits)... ...	—	—	—	—	83–73	—	—	3–10	—	Sb 14–17
,, ,, ...	—	—	—	—	Bal.	—	—	2–10	—	Sb 13–20
,, ,, ...	—	—	—	—	Bal.	—	—	5–10	—	Sb 15–19
,, (Representative)	—	—	—	—	75	—	—	10	—	Sb 15
,, ,,	—	—	—	—	72	—	—	9	—	Sb 19
,, ,,	—	—	—	—	77	—	—	8	—	Sb 15
,, ,,	—	—	—	—	80	—	—	5	—	Sb 15
,, ,,	—	—	—	—	82	—	—	3	—	Sb 15
Stereotype (U.S. Govt. Print. Off.)	—	—	—	—	76·5	—	—	8	—	Sb 15·5
,, ,, ,, ,,	—	—	—	—	Bal.	—	—	6·5–7	—	Sb 12·75–13
Typewriter Metal	3	—	57	—	—	—	20	—	20	—
Tyseley Alloy (Ornamtl. Castgs.)	8·7	—	3·5	—	—	—	—	—	87·0	Si 0·3
Uchatius Bronze (Beargs.,Gears, etc.)	—	—	92	—	—	—	—	8	—	—
Ulco Metal (Bearing Alloy) ...	—	—	—	—	Bal.	—	—	—	—	Ba 2 (max.) : Ca 1 (max.)
,, ,, ,, ,, ...	—	—	—	—	98·5	—	—	—	—	Ba + Ca 1·5
Ulco Metal—*See also* Frary Metal										
Ulcony (Heavy Duty Brgs.)	—	—	65	—	35	—	—	—	—	—
Ulmal (Rollg. & Forg. Al., H.T.)	Bal.	—	—	—	—	0·5–2·0	—	—	—	Si 0·3–1·5 : Mn 0–1·5
,, (*as* Anticorodal) ...	97·0	—	—	—	—	1·25	—	—	—	Si 0·9 : Mn 0·8
Ulminium (Wrt., H.T.—*as* Duralumin)	Bal.	—	3·5–5·5	—	—	0·2–2·0	—	—	—	Si 0·2–1·0 : Mn 0·1–1·2
Ultralumin (Rollg. & Forg. Al., H.T.)	94·3	—	4·7	—	—	—	0·2	—	—	Mn 0·8 : Ce Trace : Th Trace

PERCENTAGE COMPOSITION OF NON-FERROUS ALLOYS—(*continued*).

Description of Alloy.	Aluminium.	Chromium.	Copper.	Iron.	Lead.	Magnesium.	Nickel.	Tin.	Zinc.	Miscellaneous.
Ultralumin U11 (Rollg. & Forg. Al., H.T.)	Bal.	—	4·7	—	—	—	0·2	—	—	Mn 0·75 : Ce Trace : Th Trace
Union Metal (Bearing Alloy)...	—	—	—	—	Bal.	1·5	—	—	—	Ca 0·2
Va-Alloy	80·2	—	5·01	0·72	—	—	—	—	13·7	V 0·2
V.A.G.-160 (Corr.-Res. Alloy)	Bal.	—	—	—	—	0·6	—	—	—	Si 2–5 : Mn 0·7
Vac-Melt A (Res. Al. to 2000° F.)	—	20	—	1·5	—	—	74·5	—	—	Mo 1 : Mn 1
,, ,, AA ,, ,, ,, 2200° F.)	—	20	—	0·5	—	—	77·5	—	—	Mn 2
,, ,, B7M ,, ,, ,, 1900° F.)	—	15	—	16	—	—	60	—	—	Mo 7 : Mn 2
,, ,, C ,, ,, ,, ,, ,,	—	18·5	—	16·5	—	—	61	—	—	Mn 4
Van Allen (Dental Alloy) ...	0·25	—	9	—	—	—	—	—	—	Au 64 : Ag 18·75 : Pd 8
Vanadium Brass	1·48	—	58·56	1·00	—	—	—	—	38·54	Mn 0·48 : V 0·03
,, ,, ...	—	—	70	—	—	—	—	—	29·5	V 0·5
,, ,, (Pipes, Tubes, Fittings) ...	—	—	61	—	—	—	—	—	38·5	V 0·5
Vanadium Permendur (Hi. Perm. at Hi. Flux Dens.)	—	—	—	49	—	—	—	—	—	Co 49 : V 2
Vanalium (Cast Corr.-Res. Alloy)	80·2	—	5·1	0·72	—	—	—	—	13·7	V 0·20
Vaucher's Alloy (Brg. Alloy)...	—	—	—	—	4·5	—	—	18	75	Sb 2·5
Verilite (Corr.-Res. Alloy, H.T.)	Bal.	—	2·5	0·7	—	—	—	—	—	Mn 0·3 : Si 0·4
,, ,, ,, ,, ,,	95·5	1·5	1·0	—	—	0·5	1·5	—	—	—
,, ,, ,, ,, ,,	95·5	1·5	1·0	—	—	—	1·5	—	—	Mn 0·5
,, ,, ,, ,, ,,	96·1	—	2·5	0·7	—	—	0·3	—	—	Si 0·4
,, ,, ,, ,, ,,	96·0	1·5	1·0	—	—	—	1·0	—	—	Mn 0·1
Vialbra (Corr.-Res. Al., Cond. Tubes, etc.)	2	—	76	—	—	—	—	—	22	—
Vicalloy (Permanent Magnets)	—	—	—	30–52	—	—	—	—	—	Co 36–62 : V 6–16
Victor Bronze (Pipes, Tubes, Fittings)	1·5	—	59	1·0	—	—	—	—	39	V 0·03
Victor Metal (Cast Corr.-Res. Fittings)	0·11	—	49·94	0·28	—	—	15·40	—	34·27	—
Vikro (Heat-Res. Alloy) ...	—	13–23	—	Bal.	—	—	63–65	—	—	C 1·0 (max.) : Si 0·5–1·0 : Mn 1·0 (max.)

Description of Alloy.	Aluminium.	Chromium.	Copper.	Iron.	Lead.	Magnesium.	Nickel.	Tin.	Zinc.	Miscellaneous.
Vival (Rollg. & Forg. Al., *as* Anticorodal)	98·6	—	—	—	—	0·6	—	—	—	Si 0·8
Volomit (Carbide Cutting Tools)	—	—	—	2	—	—	—	—	—	C 4·5 : W 94·00
Volvit (Bearing Alloy) ...	—	—	91	—	—	—	—	9	—	—
Vulcan Metal (Corr.-Res. Alloy)	11·7	0·70	80·5	4·4	—	—	1·5	0·7	0·25	Si 0·98
W-Alloy (Pressure Resist. Cstgs.)	82	—	12	—	—	—	—	—	4·5	W 1·0
W.O.33 Alloy (Cast Pistons, etc.)	85	—	14	—	—	—	—	—	—	Mn 1
War Bronze (German—Cast)...	2·19	—	4·85	0·03	0·92	—	—	0·15	91·86	—
Warne's Metal (Silver Substit.—Ornam. Work)	—	—	—	—	—	—	26	37	—	Bi 26 : Co 11
Weatherstrip Bronze	—	—	89	—	—	—	—	1·5	9·5	—
Webbite (Hardener)	Bal.	—	—	—	—	—	—	—	—	Ti 5–7
Welch's Alloy (Dental Alloy)	—	—	—	—	—	—	—	52	—	Ag 48
Welsbach's Pyrophoric Alloy (Original)	—	—	—	30	—	—	—	—	—	Ce 70
Welsbach's Pyrophoric Alloy (Alternative)	—	—	—	30	—	—	—	—	—	Ce 60 : Oth. rare earth metals 10
Wessel's Silver	—	—	66–51	0–0·5	—	—	19–32	—	12–17	Ag 0–2
,, ,, ...	—	—	51	—	—	—	32	—	17	—
Westeeco No. 5 (Ht.-Res. Castgs.)	—	15–18	—	Bal.	—	—	55–60	—	—	C Some
Wheel Brand Babbitt Metal ...	—	—	3	—	—	—	—	83	—	Sb 14
Wheel Brass	—	—	68	—	2	—	—	—	30	—
White Benedict Metal (White Metal ware)	—	—	60·4	—	4·4	—	16·4	0·7	18·1	—
White Brass	—	—	3	—	—	—	—	66	—	Sb 31
,, ,, ...	5 (max.)	—	4–10	—	—	—	—	—	Bal.	—
,, ,, (Decor've Plating Al)	—	—	28	—	—	—	—	—	72	—
,, ,, No. 3 (Die-Castgs.)	3·5–4·5	—	0·10 (max.)	—	—	—	—	—	Bal.	—
,, ,, 5 ,, ,,	3·5–4·5	—	2·5–3·5	—	—	—	—	—	Bal.	—
,, ,, (Hard)	—	—	45	—	—	—	—	—	55	—
,, ,, (Soft)	—	—	10	—	—	—	—	10	80	—
White Bronze (Ornamental) ...	—	—	54	—	—	—	4	—	42	Fe plus Al. 0·3
White Copper	—	—	70	—	—	—	12	—	18	—

PERCENTAGE COMPOSITION OF NON-FERROUS ALLOYS—(*continued*).

Description of Alloy.	Alu-minium.	Chrom-ium.	Copper.	Iron.	Lead.	Mag-nesium.	Nickel.	Tin.	Zinc.	Miscellaneous.
White Metal—Generic term, ap	plied usua	lly to the	tin-base a	nd someti	mes to th	e lead-bas	e bearing	alloys		
Widia (Sintered Carbide Tools)	—	—	—	—	—	—	—	—	—	C 3 : Co 13 : W 84
,, ,, ,, ,,	—	—	—	—	—	—	—	—	—	C 5·68 : Co 6·1 : W 87·4
Widia N (Cutting Tools) ...	—	—	—	—	—	—	—	—	—	C 5 : Co 6 : W 88
Wiegold Alloy	0·28	—	67–68	—	—	—	—	—	33–32	—
,, ,, ...	—	—	67–68	—	0·5 (max.)	—	—	—	33–32	—
Wilmil (Cast, Modified—*as* Alpax)	87·0	—	—	—	—	—	—	—	—	Si 13·0
,, ,, ,, ,, ,,	86·5	—	—	—	—	—	—	—	—	Si 13·5
Wilmil M (Cast, H.T.) ...	Bal.	—	—	—	—	0·5 (max.)	—	—	—	Si 12 : Mn 0·5 (max.)
Winn's Superheat Bronze ...	—	—	62·10	0·21	0·41	—	Nil	2·00	35·03	As 0·13 : P Trace
,, ,, ,, ...	—	—	68·90	0·47	0·92	—	—	2·26	27·30	P 0·15
,, ,, ,, ...	Nil	—	64·80	0·25	0·73	—	Trace	1·98	32·16	Sb Nil : Mn 0·022 : As 0·10 : P Trace
Wire Bronze (Elect. Purposes, etc.)	—	—	98·75	—	0·05	—	—	1·2	—	—
Wolfram Brass	—	—	60	—	—	—	14	—	22	W 4
Wolfram Brass—*See* Tungsten Brass										
Wolframium (Corr.-Res. Alloy)	98	—	0·36	0·22	—	—	—	—	—	Sb 1·4 : W 0·05
Wood's Alloy (Fusible—M.Pt. 70° C.)	—	—	—	—	25	—	—	12·5	—	Bi 50 : Cd 12·5
Wood's Alloy (Fusible—M.Pt. 71° C.)	—	—	—	—	24	—	—	14	—	Bi 50 : Cd 12
X-Alloy...	Bal.	—	3·6	1·25	—	0·6	0·7	—	—	Si 0·7
,, ,, (Brg.Al.forUnfav.Condns.)	Bal.	—	—	6	—	0·5	—	—	—	—
X-ite (Heat-Resisting Alloy)...	—	18	—	Bal.	—	—	38	—	—	Mn 1·12 : Si 2·0
Xantal A (Sand-cast) (Hi. Ten. Corr.-Res. Al.)	9	—	87·2	3	—	—	—	—	—	Mn 0·8
Xantal B (Cast, H.T.) (Hi. Ten. Corr.-Res. Al.)	11	—	81	4	—	—	4	—	—	—
Xantal S (Wrought) (Hi. Ten. Corr-Res. Al.)	7·8	—	90·4	—	—	—	0·5	—	1·0	Mn 0·3

Description of Alloy.	Alu-minium.	Chrom-ium.	Copper.	Iron.	Lead.	Mag-nesium.	Nickel.	Tin.	Zinc.	Miscellaneous.
Xantal M (Sand-cast) (Hi. Ten. Corr.-Res. Al.)	9	—	89·5	—	—	—	1·5	—	—	—
Y-Alloy (Rollg. & Forging Al., Pistons, etc.)	92·5	—	4·0	—	—	1·5	2·0	—	—	—
,, ,, ,, ,,	92·1	—	4·0	—	—	1·5	2·0	—	—	Si 0·4
,, ,, ,, ,,	Bal.	—	4·0	—	—	1·5	2·0	—	—	Si 0·3 (max.)
,, ,, ,, ,,	Bal.	—	4·0	0·6	—	1·5	1·9	—	—	Si 0·13
,, ,, ,, ,,	Bal.	—	4	0·6 (max.)	—	1·5	2	—	—	Si 0·6 (max.)
Y-Alloy : Bar (B.S.S. 2L5)	Bal.	—	3·5–4·5	0·75 (max.)	—	1·20–1·70	1·80–2·30	—	—	Si 0·75 (max.): Pb, Sn & Zn 0·10 (max.)
Castings (B.S.S. 2L.24) ...	Bal.	—	3·5–4·5	0·60 (max.)	0·05 (max.)	1·20–1·70	1·80–2·30	—	—	Si 0·6 (max.) : Si + Fe 1·0 (max.) : Sn + Zn 0·10 (max.) : Ti 0·20 (max.)
Round Bar	Bal.	—	3·95	0·22	—	1·45	1·92	—	—	Si 0·25
Strip (High Comml. Qual.) ...	Bal.	—	4·00	0·16	—	1·56	2·07	—	—	Si 0·16 : Ti 0·007
Y Phosphor Bronze, No. 207A	—	—	70	—	—	—	—	—	29	P 1
Yale Bronze (Bolts, Nuts, etc.)	—	—	Bal.	—	0·7–1·5	—	—	0·5–1·5	7·5–8	—
Yamato Metal (Main Brgs. of I.C. Engines)	—	—	3–6	—	1	—	1	90–93·5	—	Sb 3–6 : Cd 0·1–1·0: P 0·001–1·0
Yellow Brass (Gen. Purp. Castgs.)	Nil	—	62–65	0·50 (max.)	2–4	—	—	1·0 (max.)	31–36	Oth. Imp. 0·25 (max.)
Yellow Brass (Heavy Castings A.S.T.M. B30–36) ...	—	—	66	—	2	—	—	Nil	32	—
Yellow Brass (Light Castings A.S.T.M. B30–36) ...	—	—	69	—	3	—	—	Nil	28	—
Yellow Brass (Plumber's Fittgs.)	—	—	71	—	3	—	—	1·5	24·5	—
,, ,, (,, Flanges,etc.)	—	—	62	—	2	—	—	Nil	36	—
,, ,, (Sand Castings)...	—	—	63·5	—	2·5	—	—	—	34	—
Yellow Metal	—	—	60–62	—	—	—	—	—	40–38	—

PERCENTAGE COMPOSITION OF NON-FERROUS ALLOYS—(*continued*).

Description of Alloy.	Alu-minium.	Chrom-ium.	Copper.	Iron.	Lead.	Mag-nesium.	Nickel.	Tin.	Zinc.	Miscellaneous.
Yellow Metal (Hot-Rolled Plates, etc.—B.S.S. No. 264) ...	—	—	59 (min.)	—	—	—	—	—	Bal.	Tot. Imp. 1·0 (max.)
Yorcalbro (Corr.-Res. Cond. Tubes, etc.)	2	—	76	—	—	—	—	—	22	—
Yorcalnic (Corr.-Res. Tubes, etc.)	7	—	91	—	—	—	2	—	—	—
Z-Alloy (Brg. Alloy used with Hard Shafts)	Bal.	—	—	—	—	—	6·5	—	—	Ti 0·5 (max.)
Z3 Alloy (Die Castings) ...	Bal.	—	6·5–8·5	0·7–1·1	—	—	—	—	3–4·25	Si 2·5–3·25
,, ,, ,, ,, ...	Bal.	—	6–8	—	—	—	—	—	2–4	Si 2–3 : Imp. (excl. Fe) 1·0 (max.)
Z3 Alloy (Gen. Purpose Foundry Alloy)	87·5	—	7·0	—	—	—	—	—	3·0	Si 2·5
Zelco (Aluminium Solder) ...	15	—	2	—	—	—	—	—	83	—
Zilloy (Corrugated Roofing) ...	—	—	1·0	—	—	0·01	—	—	Bal.	—
,, (Cold-Rolled)	—	—	1	—	—	0·10	—	—	Bal.	Cd 0·8
Zimal (Die-Castgs., Press and Grav.)	3·8–4·3	—	2·75–3·25	—	0·025 (max.)	—	—	—	Bal.	Mn 0·03–0·15 : Cd 0·010 (max.)
Zimalium (Wrt. Alloy, German Pat. 141,190)	93·5	—	—	—	—	3·7	—	—	2·8	—
,, ,, ,, ,,	91	—	—	—	—	4·5	—	—	4·5	—
,, ,, ,, ,,	88·5	—	—	—	—	7·1	—	—	4·4	—
,, ,, ,, ,,	74	—	—	—	—	11·2	—	—	14·8	—
,, ,, ,, ,,	Bal.	—	—	—	—	10 (max.)	—	—	20 (max.)	—
Zinc-Base Alloys :—										
Aluminium Welding Rod ...	30	—	20	—	—	—	—	—	50	—
Antifriction Metal	—	—	7	—	—	—	—	—	82	Sb 11
,, ,, ...	—	—	8	—	—	—	—	—	80	Sb 12
,, ,, ...	—	—	5	—	—	—	—	—	85	Sb 10
Auto. Brgs. (Siemens & Halske)	—	—	—	—	—	—	—	—	48	Sb 5 : Cd 47
,, ,, ,, ,, ,,	—	—	—	—	—	—	—	—	47·5	Sb 5 : Cd 47·5
Babbitt Metal	—	—	5	—	5	—	—	19	69	Sb 3
Battery Plates (Substitute)	—	—	3·2	—	12	—	—	21·3	63·4	—
Bearing Alloy	5	—	5	—	—	—	—	—	90	—

Description of Alloy.	Aluminium.	Chromium.	Copper.	Iron.	Lead.	Magnesium.	Nickel.	Tin.	Zinc.	Miscellaneous.
Zinc-Base Alloys:—Contd.										
Bearing Alloy	6·25	—	6·25	—	—	—	—	—	87·50	—
,, ,, (Ledebur) ...	—	—	5	—	—	—	—	—	85	Sb 10
,, ,, ,, ...	—	—	5·5	—	—	—	—	17·5	77	—
,, ,, ...	—	—	4·4	—	5	—	—	6·7	73·5	Sb 9 : Cd 1·4
,, ,, ...	6	—	12	—	—	—	—	—	82	—
,, ,, ...	4·5	—	2·5	—	—	—	—	—	93	—
,, ,, Marine (Hvy. Loads) ...	—	—	5·6	—	0·7	—	—	17·5	76·2	—
Brgs. for Gridley Auto. Mach.	5·50	—	10·80	—	0·60	—	Trace	Trace	83·02	—
Bushings, Russian	—	—	—	0·16	0·32	—	—	0·98	98·54	—
,, ,, ...	—	—	5·5	—	—	—	—	17·5	77·0	—
Chemical Apparatus ...	—	—	—	—	25	—	25	—	50	—
Cold-Rolling Alloy	—	—	4	—	—	—	—	—	96	—
Die-Castings (Limits) ...	0–5·0	—	3·0–6·0	0·10 (max.)	0·05 (max.)	0·05–0·5	0–0·5	Nil	Bal.	Cd 0·05 (max.)
Die-Castings (Corrosion-Rest.)	4	—	3	0·023	Trace	0·13	—	Trace	92·823	Sb Trace : Mn Trace : Cd Trace
Die-Castings (Std. Amer. Alloy)	4·0	—	3·0	—	—	Trace	—	—	93	—
,, ,, (ZL2 Alloy) ...	3·8–4·0	—	1·1–1·3	—	—	0·02–0·04	—	—	Bal.	—
,, ,, (ZL3 Alloy) ...	4·0	—	0·5	—	—	0·02	—	—	Bal.	—
,, ,, (ZL7 Alloy) ...	0·2–0·25	—	3·6–4·5	—	—	—	—	—	Bal.	—
,, ,, (ZL7 Alloy) ...	0·2	—	4·0	—	—	—	—	—	Bal.	—
Die Castings—*See also* Durak *and* Mazak										
Frame for Centrifugal Blower	—	—	5	—	—	—	—	—	80	Sb 15
Free-Cutting Alloy	10	—	2	—	—	0·03	—	—	87·97	—
Hot-Pressing Alloy	4	—	1	—	—	—	—	—	95	—
,, ,, ,, ...	10	—	2	—	—	—	—	—	88	—
Propeller Bushing	—	—	5	—	—	—	—	19	69	Sb 7
Pump Cocks...	—	—	7	—	—	—	—	21	72	—
War Bronze (German) ...	2·19	—	4·85	0·03	0·92	—	—	0·15	91·86	—
Zinc Bottoms	—	—	—	7	1	—	—	—	92	—
Zinc-Manganese Alloys:										
Hardener	—	—	—	—	—	—	—	—	Bal.	Mn 10–15

PERCENTAGE COMPOSITION OF NON-FERROUS ALLOYS—(*continued*).

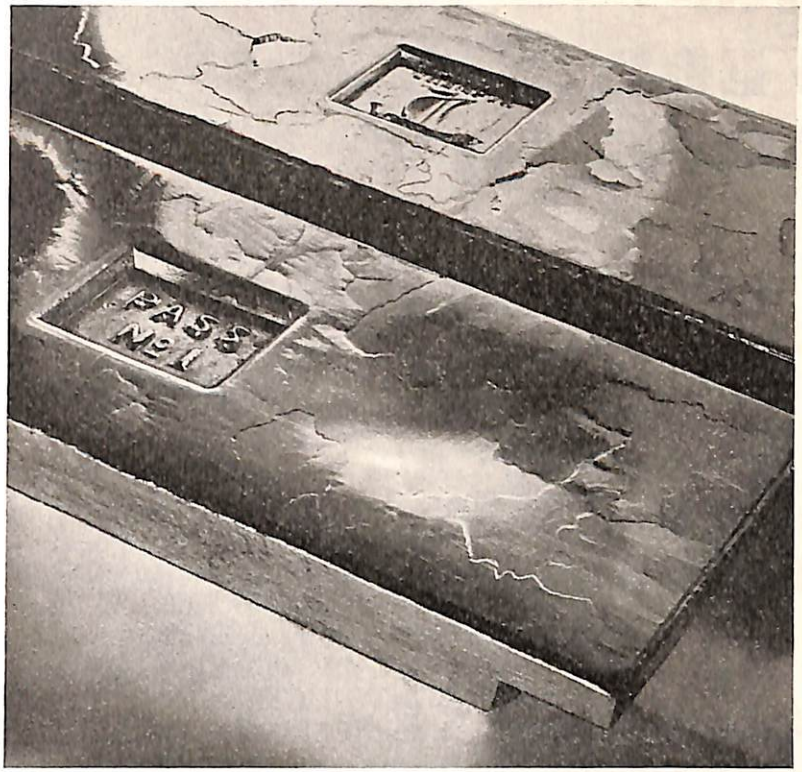
Description of Alloy.	Aluminium.	Chromium.	Copper.	Iron.	Lead.	Magnesium.	Nickel.	Tin.	Zinc.	Miscellaneous.
Zinc Tinsel	—	—	—	—	39·6	—	—	—	60·4	—
Zinkalium	Bal.	—	—	—	—	0·8–8·3	—	—	0·8–8·3	—
Zinn (or Stanniol)	—	—	0·33	—	0·7	—	—	98·9	—	—
Zisium	83	—	1	—	—	—	—	1	15	—
,, ...	82	—	3	—	—	—	—	—	15	—
Ziskon (Cast)	25–33	—	—	—	—	—	—	—	75–67	—
,, ,, ...	60	—	—	—	—	—	—	—	40	—
Zodiac (Resistance Alloy) ...	—	—	64	—	—	—	20	—	16	—
Zorite (Corr. & Heat-Res.— 1900° F.)	—	17–15	—	Bal.	—	—	37	—	—	C 0·5 : Mn 1·75 : Si 1·0
,, ,, ,, ,,	—	15	—	Bal.	—	—	35	—	—	C 0·5 : Mn 1·75

PARTICULARS OF THE METALS

Metal.	Symbol.	Colour.	International Atomic Weight (1939).	Specific Gravity.	Specific Heat.		Electrical Conductivity. Silver at 0°C=100.	Heat Conductivity. Silver = 100	Melting Point.		Boiling Point.	
					Temp.	Mean.			°F.	°C.	°F.	°C.
Aluminium ...	Al	Tin-white	26·97	2·70	20—400	0·24	57	35	1220	660	3272	1800
Antimony ...	Sb	Silver-white	121·76	6·62	0—100	0·0495	4	4·02	1166	630	2975 ± 15	1635 ± 8
Arsenic	As	Steel-grey	74·91	5·73	21—268	0·0830	5		1562	850	Sub-limes.	Sub-limes.
Barium	Ba	Ylwsh-white	137·36	3·66	—185 to 20	0·0680			1299	704		
Beryllium ...	Be or Gl	Steel-coloured	9·02	1·82	0—100	0·4246			2345	1284		
Bismuth ...		White	209·00	9·82	9—102	0·0298	1·3	1·8	514	268	2840	1560
Cadmium ...	Cd	White with blue tinge	112·41	8·64	0—100	0·0548	20	20	610	321	1411	765
Caesium ...	Cs	Silver-white	132·91	1·87	0	0·0522			83	28·25	1238	670
Calcium... ...	Ca	Ylwsh-white	40·08	1·55 (at 29°)	0—100	0·1490	18	25·4	1564	851	2264	1240
Cerium	Ce	Steel-grey	140·13	6·92	0—100	0·0450			1175	635		
Chromium ...	Cr	Greyish-white	52·01	7·14	22—51	0·1000			3326	1830	3992	2200
Cobalt	Co	Steel-grey	58·94	8·79	15—100	0·1030	15	17·2	2673	1467	4379	2415
Columbium (Niobium)	Cb Nb	Steel-grey	92·91	12·75	0	0·065			3542	1950		
Copper	Cu	Reddish-ylw	63·57	8·93	15—238	0·0951	94	92	1981	1082·6	4217	2325
Dysprosium ...	Dy		162·46									
Erbium ...	Er		167·2	4·77(?)								
Europium ...	Eu		152·0									
Gadolinium ...	Gd		156·9									
Gallium ...	Ga	Silver-white	69·72	5·95	0	0·079			86	30	3632	2000
Germanium ...	Ge	Greyish-white	72·60	5·47	0	0·0737			1652	900		
Gold	Au	Yellow	197·2	19·32	0	0·0316	67	70	1945·5	1063	3992	2200
Hafnium	Hf		178·6	13·08								
Indium	In	Silver-white	114·76	7·12	0	0·0570			311	155		
Iridium ...	Ir	Grey	193·1	22·41	0—100	0·0323			4451	2454		
Iron	Fe	Greyish-white	55·84	7·87	20—100	0·1190	17	16	2780·6 ± 5	1527 ± 3	4442	2450
Lanthanum ...	La	White	138·92	6·12	0	0·0449			1490	810		
Lead	Pb	Blue-grey	207·21	11·37	18—100	0·0310	7·2	8·5	621	327	3132	1740
Lithium ...	Li	Silver-white	6·940	0·534	0—100	0·9600	16		356	180	2437	1336
Magnesium ...	Mg	Silver-white	24·32	1·74	18—99	0·2460	34	34·3	1200	649	2048	1120
Manganese ...	Mn	White-grey	54·93	7·39	0	0·1217			2268	1242	3452	1900
Mercury ...	Hg	White	200·61	13·56 (at 15°C)	20—50	0·0331	1·5	5·3	—38	—38·5	673	356·7

PARTICULARS OF THE METALS – *Continued*

Metal.	Symbol	Colour.	International Atomic Weight (1939).	Specific Gravity.	Specific Heat.		Electrical Conductivity. Silver at 0°C=100.	Heat Conductivity. Silver = 100	Melting Point.		Boiling Point.	
					Temp.	Mean.			°F.	°C.	°F.	°C.
Molybdenum ...	Mo	Dull Silver	95·95	10·0	15—91	0·0723			4532	2500		
Neodymium ...	Nd		144·27	6·96					1544	840		
Nickel	Ni	White	58·69	8·90	0—100	0·1147	20·5	14	2651	1455	4244	2340
Osmium ...	Os	Blue-white	190·2	22·48	18—98	0·0311			4532	2500		
Palladium ...	Pd	White	106·7	12·16	18—100	0·059			2831	1555	3992	2200
Platinum ...	Pt	White	195·23	21·4	0—100	0·0323	13·5	37·9	3224	1773·5	7772	4300
Potassium ...	K	Silver-white	39·096	0·862	0	0·1728	17	45	144	62·5	1404	762·2
Praseodymium...	Pr	White	140·92	6·48	0	0·0314			1724	940		
Radium... ...	Ra	Brilliant-white	226·05						1292	700		
Rhenium ...	Re		186·31	21·4					6224	3440		
									± 108	± 60		
Rhodium ...	Rh	Bluish-white	102·91	12·41	0	0·0580			3571	1966		
									± 5	± 3		
Rubidium ...	Rb	White	85·48	1·532	0	0·0802			100	38	1285	696
Ruthenium ...	Ru	White	101·7	12·3	0	0·0611						
Samarium ...	Sm		150·43	7·8					2462	1350		
Scandium ...	Sc		45·10									
Selenium ...	Se	Steel-grey	78·96	4·5	15—217	0·084	Varies		423	217	1274	690
Silver	Ag	White	107·880	10·5	17—517	0·059	100	100	1760	960	3550	1955
Sodium ...	Na	Silver-white	22·997	0·971	0	0·2811	28	36·5	207	97·5	1622	882·9
Strontium ...	Sr	Ylwsh-white	87·63	2·74	0	0·0735			1420	771		
Tantalum ...	Ta	Iron-grey	180·88	16·6	—185 to 20	0·0326			5270	2910		
Tellurium ...	Te	Shining-white	127·61	6·25	15—100	0·0483	0·077		842	450	2534	1390
Terbium ...	Tr		159·2									
Thallium ...	Tl	White	204·39	11·9	20—100	0·0326	8		574	301	2654	1457
Thorium ...	Th	Greyish-white	232·12	11·3	0	0·0276			3090	1700		
Thulium ...	Tm		169·4									
Tin	Sn	Silver-white	118·70	7·29	0—100	0·0559	11·3	15·2	450	232	4118	2270
Titanium ...	Ti	Dark-grey	47·90	4·8	0—100	0·1125			3137	1725		
Tungsten ...	W	Steel-grey	183·92	19·2	15—93	0·0340			6150	3399		
Uranium ...	U	Silver-white	238·07	18·7	0	0·028			3360	1800		
Vanadium ...	V	Light-grey	50·95	5·5	0—100	0·1153			3128	1720		
Ytterbium ...	Yb		173·04									
Yttrium ...	Y	Dark-grey	88·92	3·8 (?)								
Zinc	Zn	Bluish-white	65·38	7·1	20—100	0·0931	25·5	26·3	786·9	419·4	1662	905·7
Zirconium ...	Zr.	Grey	91·22	6·53	0	0·0662			3501	1927		



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